



# Cincinnati State

TECHNICAL AND COMMUNITY COLLEGE

## Academic Catalog, 2020-2021



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August 2020



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# Home

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## Academic Catalog 2020-2021

The Cincinnati State Catalog for 2020-2021 provides information about the range of educational programs and services we offer our students.

- Within this Catalog, you'll find descriptions and graduation requirements for more than 100 degree and certificate programs, and descriptions of every course offered at Cincinnati State.
- You'll also find information about student services, students rights and responsibilities, and other information to help you succeed at Cincinnati State.

We invite you to learn more about getting started as a student at Cincinnati State.

**Note:** For the 2020-2021 academic year, in response to the COVID-19 situation, the College has made adjustments to the delivery of some courses and services. The College also has established safety protocols for courses and support services to promote a safe learning environment while maintaining excellent instruction and assessment of student learning.

Additional adjustments may need to be made throughout the academic year to ensure a safe learning environment.

This Catalog does not describe every adjustment that may be in effect. For the most recent information about the College's operating procedures, please visit the College website at <https://www.cincinnati.state.edu>.

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If you find errors in this catalog, please notify Pamela.Ecker@cincinnati.state.edu (pamela.ecker@cincinnati.state.edu).

All statements in this Catalog are announcements of present policy only and are subject to change at any time without prior notice. They are not to be regarded as offers to contract.

Throughout this Catalog, trademark names are used. Rather than placing a trademark symbol after every occurrence of a trademarked name, we used the names in an editorial fashion only, and to the benefit of the trademark owner, with no intention of infringement of the trademark. Where such designations appear in this document, they have been printed with initial capital letters.

Cincinnati State Technical and Community College does not discriminate on the basis of race, age, color, handicap, sexual orientation, national origin, or gender in the admission of students or in any activity conducted by Cincinnati State.

Cincinnati State Technical and Community College is an equal opportunity institution.

# Academic Calendar

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Additional information about registration and deadlines is available in the Calendars (<http://www.cincinnati.state.edu/academic-calendar/>) section of the College website.

Please note that all dates are subject to change.

## Fall Semester 2020

August 24	First Day of Classes - Full Semester
September 7	College Closed - Labor Day
September 28	First Day of Classes - Ten Week Session
November 11	College Closed - Veteran's Day
November 25 - November 29	College Closed - Thanksgiving Break
December 12	Last Day of Classes - Full Semester and Ten Week Session
December 24 - January 3	College Closed - Winter Break

## Spring Semester 2021

December 23 - January 3	College Closed - Winter Break
January 4 - January 15	College Offices Open - No Classes
January 18	College Closed - Martin Luther King Day
January 19	First Day of Classes - Full Semester
February 15	College Closed - Presidents' Day
February 22	First Day of Classes - Ten Week Session
May 3	Last Day of Classes - Full Semester

## Summer Semester 2021

May 10	First Day of Classes - Full Semester
May 31	College Closed - Memorial Day
June 7	First Day of Classes - Ten Week Session
July 5	College Closed - Independence Day
August 14	Last Day of Classes - Ten Week Session
August 21	Last Day of Classes - Full Semester



# Academic Divisions and Degree & Certificate Programs

Cincinnati State Technical and Community College has four academic divisions that offer college-credit-bearing courses:

- Business Technologies
- Engineering and Information Technologies (formerly named "Center for Innovative Technologies")
- Health and Public Safety
- Humanities and Sciences

The College offers a variety of educational programs that lead to an associate's degree. Full-time students can complete associate's degree programs in two years or less; however, many students take longer to complete their degree requirements.

## Technical associate's degrees

**Technical associate's degree programs** are intended to prepare students for employment immediately after graduation, although the credits earned in these programs also are transferable to four-year colleges and universities.

The **technical associate's degrees** awarded are:

- **Associate of Applied Business (AAB)**
- **Associate of Applied Science (AAS)**
- **Associate of Technical Study (ATS)**
- **Associate of Individualized Study (AIS)**

In this Catalog, the AAB, AAS, and BAS degree programs, as well as some ATS programs, are described in the information for the academic divisions that offer these programs. General guidelines for the AIS and ATS degrees appear later in this section of the Catalog.

## University-parallel (transfer) associate's degrees

**University-parallel associate's degree programs** (sometimes referred to as "bachelor bound" or "transfer" degrees) are intended to prepare students for immediate transfer to a four-year college or university, by providing the courses required for the first two years of a bachelor's degree. Students who complete these degrees are given preferential consideration for admission to a public university in Ohio.

The university-parallel degrees awarded are **Associate of Arts (AA)** and **Associate of Science (AS)**.

These associate's degree programs are described in this Catalog in the information for the academic divisions that offer these programs.

## Bachelor's degrees

Cincinnati State offers technical baccalaureate degrees in two specialized fields.

- The **Bachelor of Applied Science (BAS)** is available for Culinary and Food Science (p. 34), and for Land Surveying (p. 191)

The bachelor's degree programs are described in this Catalog in the information for the academic divisions that offer these programs.

## Certificate programs

In addition to bachelor's degree and associate's degree programs, the College offers many certificate programs that prepare students for specific occupational situations. These certificate programs usually can be completed in less time than is required to complete an associate's degree.

Certificate programs are described in this Catalog in the information for the academic divisions that offer these programs.

## Workforce training

Some college credit-bearing courses and certificates are offered by the College's **Workforce Development Center**. These programs are described in the Workforce Development Center (p. 514) section of this Catalog.

## Assistance for students who need additional preparation and support

The College also offers **courses and services to assist students who may need additional preparation or support** in order to be successful in achieving their academic goals. These courses and services are described in the Academic Foundations (p. 333) (Developmental Education) section of this Catalog.

## Business Technologies Division

**Division Office:** Main Building Room 330, Clifton Campus

**Division Phone Number:** (513) 569-1620

Cincinnati State's Business Technologies Division provides specialized business education by offering:

- several programs leading to an Associate of Applied Business degree.
- programs leading to an Associate of Arts in Pre-Business Administration, an Associate of Applied Science in Dietetic Technology, and an Associate of Science in Pre-Nutrition Science.
- a variety of certificate programs.

The division also offers a Bachelor of Applied Science degree in Culinary and Food Science.

The mission of the Business Technologies Division is to provide exceptional educational experiences that are customer-centered, based on a world-class cooperative education program, and supported by success-based academic standards.

The academic degree and certificate programs in the Business Technologies Division are organized into the following departments:

Accounting Technologies (p. 11)

Automotive Service Management (p. 18)

Bachelor of Applied Science in Culinary and Food Science (p. 34)

Business Management Technologies

- Business Management (p. 21)
- Finance (p. 38)
- Marketing Management (p. 26)
- Paralegal (p. 28)
- Real Estate (p. 32)

#### Hospitality Technologies

- Brewing Science (p. 42)
- Culinary Arts (p. 46)
- Dietetic Technology (p. 50)
- Hospitality Management (p. 54)
- Pastry Arts (p. 58)
- Pre-Nutrition Science (p. 61)

#### Information Management Technologies (p. 63)

#### Landscape Horticulture Technologies (p. 71)

#### Pre-Business Administration (p. 87)

#### Supply Chain Management (p. 90)

## College Orientation

To set the stage for success in the college experience, degree-seeking students are required to complete a college First Year Experience (FYE) course within the first 12 credit hours taken at Cincinnati State.

## Entrance Competencies

To ensure success in academic studies in Business Technologies, entering students must meet established academic levels in mathematics, written communication skills, and reading comprehension. As part of the admission process, entering students meet with an academic advisor who may identify academic foundations-level classes to help the student reach needed levels. Preparatory classes are available year-round, and are designed to increase students' opportunities for success in their courses.

## Cooperative Education

Cincinnati State's cooperative education program (co-op) is a pathway to career success. Cooperative education allows students to apply concepts learned in the classroom through paid positions with varied employers, while also earning academic credit. A successful co-op experience greatly increases a student's competitive advantage in the business community after graduation.

All degree-seeking students in the Business Technologies Division (except in the Dietetic Technician, Dietary Manager, and Pre-Nutrition Science programs) must earn credits in cooperative education in order to graduate. Our goal is for all students to experience the benefits of co-op. In rare instances when it is not possible to fulfill co-op requirements through traditional co-op placement, students may meet with their co-op coordinator to determine alternatives.

Students complete two prerequisite courses to prepare for their cooperative education experience: a First Year Experience (FYE) course and the Professional Practices course BUS 190.

- The FYE course prepares students for success in college.
- The Professional Practices course focuses on fundamental skills for gaining employment, resume writing, interviewing, professional etiquette, and business ethics.

As the final step in completing the cooperative education program prior to graduation, and to build a foundation for lifetime good citizenship, students also complete 20 hours of documented volunteer community service.

Co-op employers are partners in education and play a vital role in student development. Students work directly with their Cooperative Education Coordinator in a structured, managed, and evaluated program to help realize their personal career goals.

For co-op eligibility requirements, registration policies, program options, and other issues related to the cooperative education program, please refer to the [Cooperative Education Program \(http://catalog.cincinnati.edu/academicpoliciesandprocedures/cooperativeeducationprogrampolicies/\)](http://catalog.cincinnati.edu/academicpoliciesandprocedures/cooperativeeducationprogrampolicies/) section of this Catalog.

## Transfer to Baccalaureate Programs

The Business Technologies Division offers a Pre-Business Administration program. The Pre-Business Administration program provides students with the academic foundation needed for transfer to a bachelor's degree with a business-related major. Students earn an Associate of Arts degree and are well-prepared to begin their junior year in a bachelor's degree program at the four-year institution of their choice.

The Business Technologies Division also offers a Pre-Nutrition Science program. The Pre-Nutrition Science program provides students with the academic foundation needed for transfer to a bachelor's degree program in nutrition science, dietetics with an emphasis on business, exercise, or other dietetics-related programs.

Many of the Associate of Applied Business degree programs offered by the Business Technologies Division have established articulation agreements to ease transfer of credits earned at Cincinnati State to baccalaureate programs at various colleges and universities.

Cincinnati State has established articulation agreements with the University of Cincinnati, Bowling Green State University, Franklin University, Indiana Wesleyan University, Miami University (including regional campuses), Mount St. Joseph University, Northern Kentucky University, Ohio University, Rochester Institute of Technology, Thomas More College, Union Institute and University, Western Governors University, Wilmington College, Wright State University, and Xavier University.

These agreements vary in content. Interested students should meet with their program advisor as early as possible to review details of possible transfer agreements.

## Transfer Module

The Ohio Department of Higher Education developed the Ohio Transfer Module to facilitate transfer of credits from one Ohio public college or university to another. The transfer module contains 36 to 40 semester hours of course credits in the areas of communication,

mathematics, arts and humanities, social and behavioral sciences, and natural and physical sciences. A transfer module completed at one college or university automatically meets the requirements for the transfer module at another college or university once the student is admitted. For additional information, see the State of Ohio Policy for Institutional Transfer (p. 349) and the Transfer Module (p. 337) sections of this Catalog.

Associate's degree programs in the Business Technologies Division contain in their curricula 15 credit hours of general education courses related to the transfer module. The Pre-Business Administration and Pre-Nutrition Science degrees contain the entire transfer module. Students who wish to complete the transfer module should schedule the additional courses in consultation with their academic advisor. Students who transfer to an Ohio public university for baccalaureate degrees will find that the Cincinnati State Associate of Applied Business degree, and other associate's degrees, combined with a transfer module showing grades of C or higher receives preferential consideration at the receiving institution.

## Accounting Technologies

The Accounting associate's degree program (p. 11) provides students with an understanding of accounting skills and knowledge of business fundamentals. Students learn about all facets of the accounting profession, and enhance their skills through cooperative education work experience.

The Accounting program also offers two certificates:

- The Accounting Certificate (p. 11) is for those who have earned a degree in a different discipline and need accounting courses to prepare for the CPA exam, or those who may need accounting courses for job promotion. This program is best suited for students currently employed in the accounting field.
- The Bookkeeping Certificate (p. 15) prepares individuals for employment as a bookkeeper in a small or medium-sized organization, along with preparation needed to take a national certification exam.

For more information, please contact the Business Technologies Division at (513) 569-1620.

## Accounting (ACC & ACCTC)

### Accounting (ACC)

The Accounting degree program provides students with an understanding of accounting skills and knowledge of business fundamentals. Students enhance their skills through cooperative education.

While earning the Associate of Applied Business degree in Accounting, students are exposed to all facets of the accounting profession, including intermediate accounting, tax accounting, cost accounting, computerized accounting, and auditing.

Graduating students have a variety of employment opportunities in the accounting field. For further advancement, many students elect to continue their education at an area college or university.

The Accounting program offers two related certificates: Accounting and Bookkeeping.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Accounting Certificate (ACCTC)

The Accounting Certificate program at Cincinnati State is for those who have earned a degree in a different discipline and need accounting courses to prepare for the CPA exam, or those who may need accounting courses for job promotion.

This program is best suited for students currently employed in the accounting field. The certificate does not include cooperative education.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Accounting (ACC)

Semester 1		Lec	Lat	Credits
ACC 101	Financial Accounting ( T )	2	2	3
ENG 101	English Composition 1 ( G )	3	0	3
LAW 101	Business Law ( B )	3	0	3
MGT 101	Principles of Management ( B )	3	0	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
IM 10X	Computer Software Elective ( B )	0	2	1
Semester 2				
ACC 102	Managerial Accounting ( T )	2	2	3
ACC 135	Financial Statement Analysis ( T )	2	0	2
BUS 190	Professional Practices ( B )	1	0	1
IM 120	Electronic Spreadsheets: Microsoft Excel ( B )	2	3	3
MAT XXX	Mathematics Elective ( G )	3	0	3
ENG 10X	English Composition Elective ( G )	3	0	3
Semester 3				
ACC X9X	Cooperative Education Elective 1: Accounting ( T )	1	40	2

**Semester 4**

ACC 175	Federal Taxation: Individuals ( <b>T</b> )	3	0	3
ACC 201	Intermediate Accounting 1 ( <b>T</b> )	4	0	4
ACC 1XX		1	2	2
Accounting Software Elective ( <b>T</b> )				
ECO 105	Principles of Microeconomics ( <b>G</b> )	3	0	3

XXX XXX		3	0	3
Arts/ Humanities or Natural/ Physical Science Elective ( <b>G</b> )				

**Semester 5**

ACC X9X		1	40	2
Cooperative Education Elective 2: Accounting ( <b>T</b> )				

**Semester 6**

ACC 202	Intermediate Accounting 2 ( <b>T</b> )	3	0	3
ACC 210	Cost Accounting ( <b>T</b> )	3	0	3
ACC 270	Auditing ( <b>T</b> )	4	0	4
ACC XXX		3	0	3
Accounting Elective ( <b>T</b> )				
MKT 101	Principles of Marketing ( <b>B</b> )	3	0	3
<b>Total Credits:</b>		<b>57</b>	<b>91</b>	<b>64</b>

**Electives**

**First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**Computer Software Elective**

IM 106	Introductory Electronic Word Processing: Microsoft Word	1
IM 107	Introductory Electronic Presentations: Microsoft PowerPoint	1
IM 109	Introductory Database Management: Microsoft Access	1

**Mathematics Elective**

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3
MAT 131	Statistics 1	3
MAT 151	College Algebra	4
MAT 215	Business Calculus	6
MAT 251	Calculus 1	5
MAT 252	Calculus 2	5

**Accounting Software Elective (2 credit hours required)**

ACC 115	Accounting Software Applications: Sage (Peachtree)	2
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or take the following sequence:

ACC 121 & ACC 122	Computerized Bookkeeping: QuickBooks 1 and Computerized Bookkeeping: QuickBooks 2 *	2
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**Accounting Elective**

ACC 110	Accounting Information Systems	3
ACC 130	Payroll Procedures	3
ACC 140	Fund Accounting for Non-profit Organizations	3
ACC 180	Federal Taxation: Business	3
ACC 221	Volunteer Income Tax Assistant	3
ACC 230	Professional Ethics for Accountants	3
ACC 240	Bookkeeping Certification Review	4

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 105	English Composition 2: Business Communication	3

**Arts/Humanities or Natural/Physical Science Elective (select one course)**

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

or any Transfer Module Course from BIO, CHE, EVS, PSC, PHY

**Cooperative Education Electives (4 credit hours required)**

ACC 191	Part-Time Cooperative Education 1: Accounting	1
ACC 192	Part-Time Cooperative Education 2: Accounting	1
ACC 193	Part-Time Cooperative Education 3: Accounting	1
ACC 194	Part-Time Cooperative Education 4: Accounting	1
ACC 291	Full-Time Cooperative Education 1: Accounting	2
ACC 292	Full-Time Cooperative Education 2: Accounting	2

\* These 7-week courses are offered consecutively during the same semester.

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Accounting Certificate (ACCTC)**

**Accounting Certificate**

Semester 1		Lec	Lat	Credits
ACC 101	Financial Accounting	2	2	3
ACC 175	Federal Taxation: Individuals	3	0	3

**Semester 2**

ACC 102	Managerial Accounting	2	2	3
ACC 135	Financial Statement Analysis	2	0	2
ACC 201	Intermediate Accounting 1	4	0	4
ACC 1XX		2	0	2
Accounting Software Elective				

**Semester 3**

ACC 202	Intermediate Accounting 2	3	0	3
ACC 210	Cost Accounting	3	0	3
ACC 270	Auditing	4	0	4
ACC XXX		3	0	3
Accounting Elective				
Total Credits:		28	4	30

**Electives****Accounting Software Elective (two credit hours required)**

ACC 115	Accounting Software Applications: Sage (Peachtree)	2		
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or take the following sequence:

ACC 121 & ACC 122	Computerized Bookkeeping: QuickBooks 1 and Computerized Bookkeeping: QuickBooks 2 *	2		
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**Accounting Elective**

ACC 110	Accounting Information Systems	3		
ACC 130	Payroll Procedures	3		
ACC 140	Fund Accounting for Non-profit Organizations	3		
ACC 180	Federal Taxation: Business	3		
ACC 221	Volunteer Income Tax Assistant	3		
ACC 230	Professional Ethics for Accountants	3		
ACC 240	Bookkeeping Certification Review	4		

\* These 7-week courses are offered consecutively during the same semester.

**Accounting (ACC)**

- Apply generally accepted accounting principles to the transactions of a business corporation.
- Prepare the basic financial statements of a corporate entity.
- Apply managerial accounting techniques in the areas of planning, controlling, decision making, and performance evaluation to cost-volume-profit analysis, budgeting, product costing, and variance analysis.
- Utilize accounting computer software to prepare financial statements.
- Analyze financial data from the annual report of a corporation to evaluate financial performance.
- Apply the Internal Revenue Service Tax Code in the preparation of income tax returns for individuals.
- Explain the auditing standards, objectives, and procedures applied to a financial statement audit.
- Demonstrate the use of analytical procedures applied to financial statements as part of an audit engagement.

- Demonstrate professional and ethical workplace behaviors during completion of the accounting program, including cooperative education.

**Faculty****Program Chair**

Michele Geers, BBA, CPA  
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**Co-op Coordinator**

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**Advisors**

Stani Kantcheva MS, CPA, CMA  
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Stephanie Seta, MAEd  
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**Courses****ACC 101 Financial Accounting  
3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to financial accounting and financial reporting for business entities. Topics include: the accounting cycle, inventories, cash, receivables, plant assets, current liabilities, stock transactions, long-term liabilities, and cash flows.

Prerequisites: None

Ohio Transfer Assurance Guide Approved

**ACC 102 Managerial Accounting  
3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to managerial accounting for business entities. Topics include: job-order and process costing, cost behavior and cost-volume-profit analysis, activity-based costing, budgeting, standard costs, performance evaluation, relevant costs, and capital budgeting.

Prerequisites: ACC 101

Ohio Transfer Assurance Guide Approved

**ACC 110 Accounting Information Systems  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on documentation, design, and operation of accounting information systems. Topics include: internal control, business processes, flowcharting, information security, fraud detection, developing an accounting information system, and evaluating accounting software.

Prerequisites: ACC 101

**ACC 115 Accounting Software Applications: Sage (Peachtree)  
2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on processing business transactions using Sage Accounting (Peachtree) software. Topics include: processing information; internal controls; reports; and activities related to the sales and cash receipts cycle, the purchases and cash disbursements cycle, and the payroll cycle.

Prerequisites: ACC 101

**ACC 121 Computerized Bookkeeping: QuickBooks 1****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on processing transactions for small businesses using QuickBooks accounting software. Topics include: processing banking, customer, vendor, inventory, and payroll transactions; and generating and customizing financial reports. The course is delivered in a 7-week schedule.

Prerequisites: ACC 101

**ACC 122 Computerized Bookkeeping: QuickBooks 2****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A continuation of ACC 121. Topics include: setting up a new company, processing transactions for the entire accounting cycle of service companies and merchandising corporations, processing bad debts, processing credit card sales, and budgeting. The course is delivered in a 7-week schedule.

Prerequisites: ACC 121

**ACC 130 Payroll Procedures****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on payroll accounting and procedures. Topics include: payroll regulations and record keeping; computations of gross pay, employee withholdings and employer payroll taxes; and preparation of payroll tax returns.

Prerequisites: ACC 101

**ACC 135 Financial Statement Analysis****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on understanding and interpreting corporate annual reports. Topics include: trend analysis, common size statements, and ratio analysis.

Prerequisites: ACC 101

**ACC 140 Fund Accounting for Non-profit Organizations****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles and practices of accounting for non-profit organizations including government entities, school systems, colleges and universities, and charitable and religious organizations. Topics include: transaction analysis, appropriations, encumbrances, budgeting, and financial reporting.

Prerequisites: ACC 101

**ACC 175 Federal Taxation: Individuals****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on federal income taxation as it relates to individual taxpayers. Topics include: elements of the tax formula, tax issues associated with self-employment, and depreciation. Students prepare multiple tax returns and related schedules.

Prerequisites: None

**ACC 180 Federal Taxation: Business****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on federal income taxation as it relates to corporations, partnerships, and S corporations. Topics include: the elements of the tax formula, advanced tax issues, and property transactions. Students prepare multiple tax returns and related schedules.

Prerequisites: ACC 175

**ACC 191 Part-Time Cooperative Education 1: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**ACC 192 Part-Time Cooperative Education 2: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 191

**ACC 193 Part-Time Cooperative Education 3: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 192

**ACC 194 Part-Time Cooperative Education 4: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 193

**ACC 195 Part-Time Cooperative Education 5: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 194

**ACC 196 Part-Time Cooperative Education 6: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 195

**ACC 201 Intermediate Accounting 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on theory and techniques of financial accounting. Topics include: preparing required financial statements and disclosures; accounting for cash, accounts and notes receivable, inventory, plant and equipment, and intangible assets; analyzing financial statements; and international standards.

Prerequisites: ACC 101

**ACC 202 Intermediate Accounting 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ACC 201. Topics include: liabilities, stockholders' equity, investments, revenue recognition, income taxes, pension, leases, changes and disclosures in financial reporting, international standards, and analyzing financial statements.

Prerequisites: ACC 201

**ACC 210 Cost Accounting****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles and practices of cost accounting related to manufacturing and services businesses. Topics include: overhead rates, absorption and variable costing, job-order and process costing, standard costing and variance analysis, joint costs, cost allocations, and cost management.

Prerequisites: ACC 102

**ACC 221 Volunteer Income Tax Assistant****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A service learning course on preparing federal and state income tax returns for low income and elderly taxpayers under the Internal Revenue Service Volunteer Income Tax Assistant (VITA) and Tax Counseling for the Elderly (TCE) programs. Students must successfully pass the IRS - VITA/TCE Certification - Basic Exam and are required to participate in the volunteer VITA program on campus. Topics include: individual taxes, tax interviews, and assisting in tax return preparation.

Prerequisites: ACC 175 or instructor consent

**ACC 230 Professional Ethics for Accountants****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the ethical obligations of accountants. Topics include: codes of conduct of various professional accounting organizations, accounting scandals, and ethical decision-making.

Prerequisites: ACC 201

**ACC 240 Bookkeeping Certification Review****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course that prepares students for the American Institute of Professional Bookkeepers Certified Bookkeeper examination. Topics include: adjusting entries, correcting accounting errors, payroll, depreciation, inventory, and internal controls and fraud prevention.

Prerequisites: ACC 101

**ACC 250 Advanced Taxation****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on advanced taxation concerns such as tax research; tax returns required for trusts, estates, and nonprofit organization; and requirements for professional tax preparers.

Prerequisites: ACC 180

**ACC 270 Auditing****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the objectives of auditing and assurance services. Topics include: impact of the Sarbanes-Oxley Act on the auditing profession, audit reports, auditing standards, professional ethics, evidence, audit planning and testing, and internal controls and systems documentation.

Prerequisites: ACC 201

**ACC 291 Full-Time Cooperative Education 1: Accounting****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**ACC 292 Full-Time Cooperative Education 2: Accounting****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 291

**ACC 293 Full-Time Cooperative Education 3: Accounting****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 292

## Bookkeeping Certificate (BKC)

### Bookkeeping Certificate (BKC)

The Bookkeeping Certificate at Cincinnati State is for individuals seeking employment as a bookkeeper in a small or medium-sized organization. Graduates of the certificate program are prepared to take the national certification exam offered by the American Institute of Professional Bookkeepers.

The certificate program does not include cooperative education.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Bookkeeping Certificate (BKC)

**First Year**

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
ACC 101	Financial Accounting	2	2	3
IM 111	Computer Applications	2	3	3
MAT 111	Business Mathematics	2	2	3
<b>Semester 2</b>				
ACC 121 & ACC 122	Computerized Bookkeeping: QuickBooks 1 and Computerized Bookkeeping: QuickBooks 2	0	4	2
ACC 130	Payroll Procedures	3	0	3
ACC 135	Financial Statement Analysis	2	0	2
IM 120	Electronic Spreadsheets: Microsoft Excel	2	3	3
<b>Semester 3</b>				
ACC 102	Managerial Accounting	2	2	3
ACC 115	Accounting Software Applications: Sage (Peachtree)	1	2	2
ACC 240	Bookkeeping Certification Review	4	0	4
XXX XXX	Technical Elective	3	0	3
<b>Total Credits:</b>		<b>23</b>	<b>18</b>	<b>31</b>

**Technical Elective**

ACC 110	Accounting Information Systems	3
ACC 140	Fund Accounting for Non-profit Organizations	3
ACC 180	Federal Taxation: Business	3
ACC 201	Intermediate Accounting 1	4
ACC 221	Volunteer Income Tax Assistant	3
LAW 101	Business Law	3
MGT 101	Principles of Management	3

\* These 7-week courses are offered consecutively during the same semester.

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

**Faculty****Program Chair**

Michele Geers, BBA, CPA  
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**Advisor**

Stephenie Seta, MAEd  
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**Courses****ACC 101 Financial Accounting**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to financial accounting and financial reporting for business entities. Topics include: the accounting cycle, inventories, cash, receivables, plant assets, current liabilities, stock transactions, long-term liabilities, and cash flows.

Prerequisites: None

Ohio Transfer Assurance Guide Approved

**ACC 102 Managerial Accounting**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to managerial accounting for business entities. Topics include: job-order and process costing, cost behavior and cost-volume-profit analysis, activity-based costing, budgeting, standard costs, performance evaluation, relevant costs, and capital budgeting.

Prerequisites: ACC 101

Ohio Transfer Assurance Guide Approved

**ACC 110 Accounting Information Systems**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on documentation, design, and operation of accounting information systems. Topics include: internal control, business processes, flowcharting, information security, fraud detection, developing an accounting information system, and evaluating accounting software.

Prerequisites: ACC 101

**ACC 115 Accounting Software Applications: Sage (Peachtree)**

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on processing business transactions using Sage Accounting (Peachtree) software. Topics include: processing information; internal controls; reports; and activities related to the sales and cash receipts cycle, the purchases and cash disbursements cycle, and the payroll cycle.

Prerequisites: ACC 101

**ACC 121 Computerized Bookkeeping: QuickBooks 1**

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on processing transactions for small businesses using QuickBooks accounting software. Topics include: processing banking, customer, vendor, inventory, and payroll transactions; and generating and customizing financial reports. The course is delivered in a 7-week schedule.

Prerequisites: ACC 101

**ACC 122 Computerized Bookkeeping: QuickBooks 2**

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A continuation of ACC 121. Topics include: setting up a new company, processing transactions for the entire accounting cycle of service companies and merchandising corporations, processing bad debts, processing credit card sales, and budgeting. The course is delivered in a 7-week schedule.

Prerequisites: ACC 121

**ACC 130 Payroll Procedures**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on payroll accounting and procedures. Topics include: payroll regulations and record keeping; computations of gross pay, employee withholdings and employer payroll taxes; and preparation of payroll tax returns.

Prerequisites: ACC 101

**ACC 135 Financial Statement Analysis**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on understanding and interpreting corporate annual reports. Topics include: trend analysis, common size statements, and ratio analysis.

Prerequisites: ACC 101

**ACC 140 Fund Accounting for Non-profit Organizations**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles and practices of accounting for non-profit organizations including government entities, school systems, colleges and universities, and charitable and religious organizations. Topics include: transaction analysis, appropriations, encumbrances, budgeting, and financial reporting.

Prerequisites: ACC 101

**ACC 175 Federal Taxation: Individuals**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on federal income taxation as it relates to individual taxpayers. Topics include: elements of the tax formula, tax issues associated with self-employment, and depreciation. Students prepare multiple tax returns and related schedules.

Prerequisites: None

**ACC 180 Federal Taxation: Business**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on federal income taxation as it relates to corporations, partnerships, and S corporations. Topics include: the elements of the tax formula, advanced tax issues, and property transactions. Students prepare multiple tax returns and related schedules.

Prerequisites: ACC 175



**ACC 191 Part-Time Cooperative Education 1: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**ACC 192 Part-Time Cooperative Education 2: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 191

**ACC 193 Part-Time Cooperative Education 3: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 192

**ACC 194 Part-Time Cooperative Education 4: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 193

**ACC 195 Part-Time Cooperative Education 5: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 194

**ACC 196 Part-Time Cooperative Education 6: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 195

**ACC 201 Intermediate Accounting 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on theory and techniques of financial accounting. Topics include: preparing required financial statements and disclosures; accounting for cash, accounts and notes receivable, inventory, plant and equipment, and intangible assets; analyzing financial statements; and international standards.

Prerequisites: ACC 101

**ACC 202 Intermediate Accounting 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ACC 201. Topics include: liabilities, stockholders' equity, investments, revenue recognition, income taxes, pension, leases, changes and disclosures in financial reporting, international standards, and analyzing financial statements.

Prerequisites: ACC 201

**ACC 210 Cost Accounting****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles and practices of cost accounting related to manufacturing and services businesses. Topics include: overhead rates, absorption and variable costing, job-order and process costing, standard costing and variance analysis, joint costs, cost allocations, and cost management.

Prerequisites: ACC 102

**ACC 221 Volunteer Income Tax Assistant****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A service learning course on preparing federal and state income tax returns for low income and elderly taxpayers under the Internal Revenue Service Volunteer Income Tax Assistant (VITA) and Tax Counseling for the Elderly (TCE) programs. Students must successfully pass the IRS - VITA/TCE Certification - Basic Exam and are required to participate in the volunteer VITA program on campus. Topics include: individual taxes, tax interviews, and assisting in tax return preparation.

Prerequisites: ACC 175 or instructor consent

**ACC 230 Professional Ethics for Accountants****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the ethical obligations of accountants. Topics include: codes of conduct of various professional accounting organizations, accounting scandals, and ethical decision-making.

Prerequisites: ACC 201

**ACC 240 Bookkeeping Certification Review****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course that prepares students for the American Institute of Professional Bookkeepers Certified Bookkeeper examination. Topics include: adjusting entries, correcting accounting errors, payroll, depreciation, inventory, and internal controls and fraud prevention.

Prerequisites: ACC 101

**ACC 250 Advanced Taxation****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on advanced taxation concerns such as tax research; tax returns required for trusts, estates, and nonprofit organization; and requirements for professional tax preparers.

Prerequisites: ACC 180

**ACC 270 Auditing****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the objectives of auditing and assurance services. Topics include: impact of the Sarbanes-Oxley Act on the auditing profession, audit reports, auditing standards, professional ethics, evidence, audit planning and testing, and internal controls and systems documentation.

Prerequisites: ACC 201

**ACC 291 Full-Time Cooperative Education 1: Accounting**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**ACC 292 Full-Time Cooperative Education 2: Accounting**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 291

**ACC 293 Full-Time Cooperative Education 3: Accounting**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 292

## Automotive Service Management Technologies (ASM & ASTCT)

### Automotive Service Management (ASM)

The Automotive Service Management program includes co-op education at local automotive service companies as well as classroom instruction. These experiences help students develop the knowledge and technical skills that are essential for success in any avenue of the automotive work force.

Graduates of the program earn an Associate of Applied Business degree, and are prepared to take certification exams offered by the National Institute for Automotive Service Excellence (ASE).

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Automotive Service Technician Certificate (ASTCT)

The Automotive Service Technician Certificate at Cincinnati State prepares students for entry-level jobs in the technical areas of the automotive service field. Hands-on diagnosis and repair of "live" vehicles enhance students' diagnostic skills and build a solid foundation for a successful and rewarding career.

Graduates of the certificate program are prepared to take certification exams offered by the National Institute for Automotive Service Excellence (ASE).

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Automotive Service Management (ASM)

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
AUTO 100	Introduction to Automotive Technology ( <b>B</b> )	2	3	3
IM 111	Computer Applications ( <b>B</b> )	2	3	3
AUTO 111	Engine Repair ( <b>T</b> )	2	3	3
AUTO 161	Electrical/Electronic Systems 1 ( <b>T</b> )	2	3	3
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
<b>Semester 2</b>				
AUTO 150	Brakes ( <b>T</b> )	2	3	3
AUTO 162	Electrical/Electronic Systems 2 ( <b>T</b> )	2	3	3
AUTO 181	Engine Performance 1 ( <b>T</b> )	2	3	3
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
BUS 190	Professional Practices ( <b>B</b> )	1	0	1
MAT 1XX	Mathematics Elective ( <b>G</b> )	3	0	3
<b>Semester 3</b>				
AUTO X9X	Cooperative Education Elective 1: Automotive ( <b>T</b> )	1	40	2
<b>Semester 4</b>				
LAW 101	Business Law ( <b>B</b> )	3	0	3
AUTO 140	Suspension and Steering ( <b>T</b> )	2	3	3
AUTO 175	Powertrain Systems and Service ( <b>T</b> )	2	3	3
MGT 101	Principles of Management ( <b>B</b> )	3	0	3
ACC 101	Financial Accounting ( <b>B</b> )	3	0	3
<b>Semester 5</b>				
AUTO X9X	Cooperative Education Elective 2: Automotive ( <b>T</b> )	1	40	2
<b>Semester 6</b>				
AUTO 170	Heating and Air Conditioning ( <b>T</b> )	2	3	3
AUTO 182	Engine Performance 2 ( <b>T</b> )	2	3	3

XXX XXX Arts/ Humanities Elective (G)	3	0	3
XXX XXX Social/ Behavioral Science Elective (G)	3	0	3
<b>Total Credits:</b>	<b>50</b>	<b>113</b>	<b>63</b>

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3

### Arts/Humanities Elective

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

### Social/Behavioral Science Elective

Any Transfer Module course from ECO, GEO, HST, LBR, POL, PSY, SOC

### Cooperative Education Electives (4 credit hours required)

AUTO 191	Part-Time Cooperative Education 1: Automotive	1
AUTO 192	Part-Time Cooperative Education 2: Automotive	1
AUTO 193	Part-Time Cooperative Education 3: Automotive	1
AUTO 194	Part-Time Cooperative Education 4: Automotive	1
AUTO 195	Part-Time Cooperative Education 5: Automotive	1
AUTO 196	Part-Time Cooperative Education 6: Automotive	1
AUTO 291	Full-Time Cooperative Education 1: Automotive	2
AUTO 292	Full-Time Cooperative Education 2: Automotive	2
AUTO 293	Full-Time Cooperative Education 3: Automotive	2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Automotive Service Technician Certificate (ASTC)

### Automotive Service Technician Certificate

Semester 1		Lec	Lat	Credits
AUTO 100	Introduction to Automotive Technology	2	3	3
AUTO 111	Engine Repair	2	3	3
AUTO 150	Brakes	2	3	3
AUTO 161	Electrical/Electronic Systems 1	2	3	3
AUTO 181	Engine Performance 1	2	3	3
Semester 2		Lec	Lat	Credits
AUTO 140	Suspension and Steering	2	3	3
AUTO 162	Electrical/Electronic Systems 2	2	3	3
AUTO 170	Heating and Air Conditioning	2	3	3
AUTO 175	Powertrain Systems and Service	2	3	3
AUTO 182	Engine Performance 2	2	3	3
<b>Total Credits:</b>		<b>20</b>	<b>30</b>	<b>30</b>

## Automotive Service Management (ASM)

- Diagnose mechanical malfunctions and electrical problems and make necessary repair.
- Effectively locate and utilize technical information required for vehicle repair.
- Function collaboratively as a member of a team to achieve specified and measurable results.
- Operate precision automotive diagnostic and repair equipment.
- Use tools and equipment found in an automotive repair shop.
- Follow established procedures for safety and accident prevention in the automotive service facility.
- Demonstrate comprehensive knowledge of employer expectations and ethical work practice.
- Diagnose a variety of automotive systems including electrical, brakes, engines, transmissions and steering, and suspension.
- Prepare students to be entry-level technicians in a variety of automotive careers.

## Faculty

### Program Chair

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### Co-op Coordinator

Brian Hooten, MAOL  
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## Courses

### **AUTO 100 Introduction to Automotive Technology**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on foundation concepts of the automotive industry.

Topics include: safety practices, shop equipment and tools, vehicle subsystems, service publications, fasteners, professional responsibilities, and automotive maintenance.

Prerequisites: ENG 085 or appropriate placement

Corequisites: AUTO 161

### **AUTO 111 Engine Repair**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on internal combustion engines. Topics include: engine classification, identification of parts, disassembly, inspection, and measurement; failure analysis; reassembly; and tools and procedures used in the engine rebuilding process.

Prerequisites: AUTO 100

### **AUTO 140 Suspension and Steering**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operation, diagnosis, service, and repair of steering and suspension systems. Topics include: wheels and tires, front and rear suspension systems for front-wheel drive and rear-wheel drive vehicles, and wheel alignment angles.

Prerequisites: AUTO 100 and AUTO 161

### **AUTO 150 Brakes**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operation, diagnosis, service, and repair of automotive braking systems. Topics include: hydraulic, mechanical, and anti-lock braking systems; power assist units; and machine operations of drums and rotors.

Prerequisites: AUTO 100 and AUTO 161

### **AUTO 161 Electrical/Electronic Systems 1**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on systematic diagnosis and repair of basic automotive electrical circuits. Topics include: Ohm's law, interpreting wiring schematics, step-by-step testing procedures, starting and charging systems, and automotive component testing.

Prerequisites: ENG 085 or appropriate placement

Corequisites: AUTO 100

### **AUTO 162 Electrical/Electronic Systems 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of AUTO 161. Topics include: wiring schematic interpretation, diagnosis, and repair of driver information systems, cruise control systems, motor driven accessories, heated glass, and electronic body control systems.

Prerequisites: AUTO 100 and AUTO 161

### **AUTO 170 Heating and Air Conditioning**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on diagnosis, service, and repair of automotive air conditioning and heating systems. Topics include: performance testing, pressure and leak testing, electrical and mechanical controls, compressors, clutches, safety devices, and ozone-safe service.

Prerequisites: AUTO 100 and AUTO 161

### **AUTO 175 Powertrain Systems and Service**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on assessment and replacement of major powertrain components. Topics include: procedures for replacing and servicing engines, drivetrain components, automatic transmissions, manual transmissions, and differentials.

Prerequisites: AUTO 100 and AUTO 111 and AUTO 161

### **AUTO 181 Engine Performance 1**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on engine performance diagnostics and fuel injection and ignition systems. Topics include: evaluation of basic engine mechanical system through vacuum, cylinder power balance, compression, and cylinder leakage testing.

Prerequisites: AUTO 111 and AUTO 161

### **AUTO 182 Engine Performance 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of AUTO 181. Topics include: On-Board Diagnostics systems, scan tools that retrieve diagnostic codes and data, diagnostic flow charts, and testing and replacing computer sensor inputs and computer-controlled output components.

Prerequisites: AUTO 181

### **AUTO 191 Part-Time Cooperative Education 1: Automotive**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

### **AUTO 192 Part-Time Cooperative Education 2: Automotive**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 191

### **AUTO 193 Part-Time Cooperative Education 3: Automotive**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 192

### **AUTO 194 Part-Time Cooperative Education 4: Automotive**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 193

**AUTO 195 Part-Time Cooperative Education 5: Automotive****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 194

**AUTO 196 Part-Time Cooperative Education 6: Automotive****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 195

**AUTO 291 Full-Time Cooperative Education 1: Automotive****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**AUTO 292 Full-Time Cooperative Education 2: Automotive****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 291

**AUTO 293 Full-Time Cooperative Education 3: Automotive****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AUTO 292

## Business Management Technologies

The Business Management Technologies programs prepare students for entry-level positions in a wide range of business organizations and situations.

- Associate's degree programs in Business Management (p. 21), Marketing Management (p. 26), and Paralegal (p. 28) include a range of courses that prepare students for professional work. These programs include cooperative education work experience, which provides insight on dealing with day-to-day responsibilities in business settings.
- Certificate programs in Entrepreneurship (p. 25), Paralegal (p. 28), and Real Estate (p. 32) are designed to lead to immediate employment opportunities in a shorter timeframe.
- The Business Pathways Certificate (p. 24) is designed for students who want to learn fundamental business concepts while also completing some of the required courses for an Associate of Applied Business degree.

For more information, please contact the Business Technologies Division at (513) 569-1620.

## Business Management (BM)

### Business Management (BM)

The Business Management degree program combines sound business training with on-the-job experience. Classroom experience includes understanding contemporary practices in management, marketing, human resources, accounting, and organizational development. Students also learn about effective use of time, money, materials, and people to improve business results.

Through cooperative education work experience, students gain valuable insight and "how to" experience in assessing and solving management challenges that businesses deal with every day.

Graduates earn an Associate of Applied Business degree.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Business Management (BM)

Semester 1		Lec	Lat	Credits
FYE 1XX		1	0	1
First Year Experience Elective (T)				
ENG 101	English Composition 1 ( G )	3	0	3
IM 1XX		2	3	3
Computer Elective (B)				
MGT 101	Principles of Management ( B )	3	0	3
MAT XXX		3	0	3
Mathematics Elective (G)				
Semester 2				
ENG 10X		3	0	3
English Composition Elective (G)				
ECO 105	Principles of Microeconomics ( G )	3	0	3
MKT 101	Principles of Marketing ( B )	3	0	3
MGT 105	Human Resource Management ( T )	3	0	3
BUS 190	Professional Practices ( T )	1	0	1
Semester 3				
ACC 101	Financial Accounting ( B )	2	2	3
LAW 101	Business Law ( B )	3	0	3
MGT 220	Leadership ( T )	3	0	3
COMM 1XX		3	0	3
Communications Elective (T)				
Semester 4				

XXX XXX Business Elective 1 (T)	3	0	3
MGT X9X Cooperative Education Elective: Management (T)	1	40	2
<b>Semester 5</b>			
XXX XXX Arts/ Humanities Elective (G)	3	0	3
FIN 150 Business Finance (T)	3	0	3
MKT 130 Professional Selling (T)	3	0	3
XXX XXX Business Elective 2 (T)	3	0	3
<b>Semester 6</b>			
MGT 290 Business Management Capstone (T)	2	2	3
MGT X9X Cooperative Education Elective: Management (T)	1	40	2
Total Credits:	55	87	60

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Computer Elective

IM 111	Computer Applications	3
IM 120	Electronic Spreadsheets: Microsoft Excel	3
IM 200	Information Systems for Managers	3

### Communications Elective

COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 105	English Composition 2: Business Communication	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3
MAT 131	Statistics 1	3
MAT 132	Statistics 2	3
MAT 151	College Algebra	4
MAT 215	Business Calculus	6
MAT 251	Calculus 1	5

MAT 252	Calculus 2	5
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### Business Electives (6 credit hours required)

ACC 102	Managerial Accounting	3
FIN 100	Personal Finance	3
FIN 120	Risk and Insurance	3
MGT 120	Entrepreneurship	3
MGT 125	Business Ethics	3
MGT 130	Project Management	3
MGT 140	Quality Management	3
MKT 161	Branding and Product Development	1
MKT 162	Sales Promotion	1
MKT 163	Services and Non-Profit Marketing	1
MKT 164	Social Media and Consumer Engagement	1
MKT 205	Marketing Research	3
MKT 215	Advertising and Public Relations	3
MKT 231	Direct and Database Marketing	1
MKT 232	Integrated Marketing Communications	1
MKT 233	Sales Management	1

### Arts/Humanities Elective

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

### Cooperative Education Elective (4 Credit Hours Required)

MGT 191	Part-Time Cooperative Education 1: Management	1
MGT 192	Part-Time Cooperative Education 2: Management	1
MGT 193	Part-Time Cooperative Education 3: Management	1
MGT 194	Part-Time Cooperative Education 4: Management	1
MGT 291	Full-Time Cooperative Education 1: Management	2
MGT 292	Full-Time Cooperative Education 2: Management	2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Business Management (BM)

- Demonstrate professional written and interpersonal communication skills that will enable students to collaboratively interact with customers, employers, and suppliers.

- Recognize the management functions of planning, leading, organizing, and controlling.
- Analyze an organization's strengths, weaknesses, opportunities, and threats from a marketing and organizational perspective.
- Understand human resources functions from employee, manager, and organizational perspectives.
- Understand the different skills needed and roles played by managers and leaders.
- Write effective goals that are specific, measurable, results-oriented, and time-bound.
- Understand the differences in business cultures around the world and the need to adapt to them effectively.
- Recognize and adapt to the communication, leadership, and team building styles of others.

## Faculty

### Program Chair

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## Courses

### **BUS 100 Business Career Exploration Seminar** **1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using research and personal reflection to develop a strong foundation for selecting an academic program/major and planning a career related to Business. Topics include: analyzing interests, abilities, and values; reviewing academic and personal requirements for related programs/majors; and examining career outcomes including salary, job availability, advancement opportunities, and other factors.  
Prerequisites: None

### **BUS 150 Automotive Services ATS: Advanced Standing** **30 Credits. 30 Lecture Hours. 0 Lab Hour.**

Students complete apprenticeship education, industry training programs, or work experience related to skills used in the automotive services industry.  
Prerequisites: Program Chair consent  
Instructor Consent Required

### **BUS 190 Professional Practices** **1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that prepares students in Business Technologies programs for a successful cooperative education experience. Topics include: exploring career options, preparing a resume, developing interviewing skills, building a professional presence, and understanding professional ethics. Students must earn a grade of C or higher to pass this course.  
Prerequisites: ENG 085 or appropriate placement

### **BUS 191 Part-Time Cooperative Education 1: Business** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 190 (minimum grade C)

### **BUS 192 Part-Time Cooperative Education 2: Business** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 191

### **BUS 193 Part-Time Cooperative Education 3: Business** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 192

### **BUS 194 Part-Time Cooperative Education 4: Business** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 193

### **BUS 195 Part-Time Cooperative Education 5: Business** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 194

### **BUS 196 Part-Time Cooperative Education 6: Business** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 195

### **BUS 280 Cooperative Education Seminar 1** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Students participate in activities that enhance employment options in a chosen career field, as an alternative to traditional cooperative education experience. A minimum grade of C is required to pass the course.  
Prerequisites: Co-op coordinator consent  
Instructor Consent Required

**BUS 285 Cooperative Education Seminar 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Students participate in activities that enhance employment options in a chosen career field, as an alternative to traditional cooperative education experience. A minimum grade of C is required to pass the course.

Prerequisites: Co-op coordinator consent

Instructor Consent Required

**BUS 291 Full-Time Cooperative Education 1: Business****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**BUS 292 Full-Time Cooperative Education 2: Business****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 291

**BUS 293 Full-Time Cooperative Education 3: Business****2 Credits. 2 Lecture Hours. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 292

## Business Pathways Certificate (BUSC)

### Business Pathways Certificate (BUSC)

The Business Pathways Certificate is designed for students who want to learn fundamental business concepts while also completing some of the required courses (general education requirements and basic business requirements) for an Associate of Applied Business degree.

Students admitted to one of the following Cincinnati State associate's degree programs may wish to add the Business Pathways Certificate:

- Accounting
- Business Management
- Finance Technology
- Hospitality Management
- Marketing Management
- Pre-Business Administration
- Supply Chain Management

Students with degrees in non-business areas may use this certificate to prepare for entrance into a Master of Business Administration (MBA) program.

High school students who are earning college credits through College Credit Plus may also wish to pursue the Business Pathways Certificate.

To ensure that courses taken as part of the certificate will apply to degrees earned at Ohio public universities, students should select electives that are part of the Ohio Transfer Module or the Ohio Transfer Assurance Guide. Certificate advisors assist students in choosing elective courses.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Business Pathways Certificate (BUSC)

Semester 1		Lec	Lat	Credits
ENG 101	English Composition 1	3	0	3
MAT XXX	Mathematics Elective	3	0	3
ACC 101	Financial Accounting	2	2	3
LAW 101	Business Law	3	0	3
MGT 101	Principles of Management	3	0	3
Semester 2				
ENG 10X	English Composition Elective	3	0	3
XXX XXX	Arts/ Humanities Elective or Natural/ Physical Sciences Elective	3	0	3
XXX XXX	Social/ Behavioral Sciences Elective	3	0	3
XXX XXX	Directed Elective 1	3	0	3
XXX XXX	Directed Elective 2	3	0	3
Total Credits:		29	2	30

## Electives

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 105	English Composition 2: Business Communication	3

### Mathematics Elective (select one course)

College-level math:		
MAT 105	Quantitative Reasoning	3



MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3
or, Ohio Transfer Module math:		
MAT 131	Statistics 1	3
MAT 151	College Algebra	4
MAT 153	Pre-Calculus	6
MAT 215	Business Calculus	6
MAT 251	Calculus 1	5
MAT 252	Calculus 2	5

#### Directed Electives (select courses from two different subject areas)

ACC 102	Managerial Accounting *	3
MKT 101	Principles of Marketing (Requires ECO 105 as a pre-requisite or co-requisite) *	3
FIN 100	Personal Finance	3
FIN 150	Business Finance	3
IM 111	Computer Applications	3
IM 120	Electronic Spreadsheets: Microsoft Excel	3
IM 200	Information Systems for Managers	3

#### Arts/Humanities Elective

Any Ohio Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

#### Natural/Physical Sciences Elective

Any Ohio Transfer Module course from BIO, CHE, EVS, PSC, PHY

#### Social/Behavioral Sciences Elective

Any Ohio Transfer Module course from ECO, GEO, HST, LBR, POL, PSY, SOC

\* Ohio Transfer Assurance Guide (TAG) course

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Advisor

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## Entrepreneurship Certificate (ETRPC)

### Entrepreneurship Certificate (ETRPC)

The Entrepreneurship Certificate certificate program provides knowledge in several areas of business to help the entrepreneur start a business or manage an existing business effectively.

Certificate coursework provides skills in accounting, management, and marketing that are necessary to start a successful business. Also, courses completed for the certificate apply toward the Associate of Applied Business degree in Business Management.

The Entrepreneurship Certificate can be completed through online learning.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

## Entrepreneurship Certificate (ETRPC)

Semester 1		Lec	Lat	Credits
MGT 101	Principles of Management	3	0	3
ACC 101	Financial Accounting	2	2	3
IM 111	Computer Applications	2	3	3
MAT XXX	Mathematics Elective	3	0	3
Semester 2				
MKT 130	Professional Selling	3	0	3
MGT 120	Entrepreneurship	3	0	3
ECO 105	Principles of Microeconomics	3	0	3
Semester 3				
MKT 101	Principles of Marketing	3	0	3
LAW 101	Business Law	3	0	3
XXX XXX	Technical Elective	3	0	3
Total Credits:		28	5	30

## Electives

### Technical Elective 3

Consult with your Advisor to choose from one of these departments: ACC, AVP, CET, CUL, ECE, GRD, HFT, HRM, LH, MGT, MKT, PAS, RE

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3
MAT 131	Statistics 1	3
MAT 151	College Algebra	4

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Program Chair

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### Advisor

Eimee Donbar, M.A.  
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## Marketing Management (MMT)

### Marketing Management (MMT)

For students with an interest in meeting people's unique needs, marketing is an exciting career choice. Marketing involves identifying the products and services that solve people's problems and make them feel good, and then influencing people's buying behavior.

Students in the Marketing Management associate's degree program gain understanding and experience in market research, market planning, new product and service development, customer behavior, branding, logistics, personal selling and sales management, direct marketing, retailing, advertising, promotion, public relations, pricing, distribution, and many other areas of marketing.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

### Marketing Management (MMT)

Semester 1		Lec	Lat	Credits
FYE 1XX	First Year Experience Elective (T)	1	0	1
MAT XXX	Mathematics Elective (G)	3	0	3
ENG 101	English Composition 1 (G)	3	0	3
IM 1XX	Computer Applications Elective (B)	2	3	3
MGT 101	Principles of Management (B)	3	0	3
Semester 2				
COMM 1XX	Communications Elective (T)	3	0	3
ECO 105	Principles of Microeconomics (G)	3	0	3
ENG 10X	English Composition Elective (G)	3	0	3
MKT 101	Principles of Marketing (B)	3	0	3
BUS 190	Professional Practices (T)	1	0	1

### Semester 3

MKT 130	Professional Selling (T)	3	0	3
ACC 101	Financial Accounting (B)	2	2	3
LAW 101	Business Law (B)	3	0	3
MGT 130	Project Management (T)	3	0	3

### Semester 4

XXX 1XX	Business/Marketing Elective (T)	3	0	3
MKT X9X	Cooperative Education Elective: Marketing (T)	1	40	2

### Semester 5

MKT 205	Marketing Research (T)	3	0	3
MKT 215	Advertising and Public Relations (T)	3	0	3
MKT 250	Digital Marketing and Social Media (T)	3	0	3
XXX XXX	Arts/Humanities Elective (G)	3	0	3

### Semester 6

MGT 290	Business Management Capstone (T)	2	2	3
MKT X9X	Cooperative Education Elective: Marketing (T)	1	40	2
Total Credits:		55	87	60

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Computer Applications Elective

IM 111	Computer Applications	3
IM 120	Electronic Spreadsheets: Microsoft Excel	3
IM 200	Information Systems for Managers	3

### Communications Elective

COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 105	English Composition 2: Business Communication	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3

MAT 131	Statistics 1	3
MAT 132	Statistics 2	3
MAT 151	College Algebra	4
MAT 215	Business Calculus	6
MAT 251	Calculus 1	5
MAT 252	Calculus 2	5
<b>Business/Marketing Elective (3 credit hours required)</b>		
ACC 102	Managerial Accounting	3
FIN 100	Personal Finance	3
FIN 120	Risk and Insurance	3
MGT 120	Entrepreneurship	3
MGT 125	Business Ethics	3
MGT 220	Leadership	3
MKT 161	Branding and Product Development	1
MKT 162	Sales Promotion	1
MKT 163	Services and Non-Profit Marketing	1
MKT 164	Social Media and Consumer Engagement	1
MKT 231	Direct and Database Marketing	1
MKT 232	Integrated Marketing Communications	1
MKT 233	Sales Management	1
<b>Arts/Humanities Elective</b>		
Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130		3
<b>Cooperative Education Electives (4 credit hours required)</b>		
MKT 191	Part-Time Cooperative Education 1: Marketing	1
MKT 192	Part-Time Cooperative Education 2: Marketing	1
MKT 193	Part-Time Cooperative Education 3: Marketing	1
MKT 194	Part-Time Cooperative Education 4: Marketing	1
MKT 291	Full-Time Cooperative Education 1: Marketing	2
MKT 292	Full-Time Cooperative Education 2: Marketing	2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Marketing Management (MMT)

- Demonstrate a working knowledge and application of marketing terminology, concepts, activities, ethics, and strategies.
- Understand the functions of marketing within the organization and external environments and how marketing contributes to organizational attainment of goals and objectives.

- Apply quantitative and qualitative analytical skills through the application of marketing concepts, theories, and tools for setting strategies and solving marketing problems.
- Demonstrate skills in creative and critical thinking, written and oral communication, and ethical reasoning that will enable students to interact with employers, suppliers, and the customer's company.
- Recognize the management functions of planning, leading, organizing, and controlling.
- Interpret financial data and use it to make informed decisions about the operating performance and financial position of a firm.
- Analyze sales and customer service processes to facilitate consumer and business-to-business purchasing and customer retention.
- Assess and develop individual communication, leadership, and team building skills while recognizing and adapting to the communication, leadership, and team building styles of others.

## Faculty

### Program Co-Chairs

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## Courses

### **BUS 100 Business Career Exploration Seminar** **1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using research and personal reflection to develop a strong foundation for selecting an academic program/major and planning a career related to Business. Topics include: analyzing interests, abilities, and values; reviewing academic and personal requirements for related programs/majors; and examining career outcomes including salary, job availability, advancement opportunities, and other factors.  
Prerequisites: None

### **BUS 150 Automotive Services ATS: Advanced Standing** **30 Credits. 30 Lecture Hours. 0 Lab Hour.**

Students complete apprenticeship education, industry training programs, or work experience related to skills used in the automotive services industry.

Prerequisites: Program Chair consent  
Instructor Consent Required

**BUS 190 Professional Practices****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that prepares students in Business Technologies programs for a successful cooperative education experience. Topics include: exploring career options, preparing a resume, developing interviewing skills, building a professional presence, and understanding professional ethics. Students must earn a grade of C or higher to pass this course.

Prerequisites: ENG 085 or appropriate placement

**BUS 191 Part-Time Cooperative Education 1: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**BUS 192 Part-Time Cooperative Education 2: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 191

**BUS 193 Part-Time Cooperative Education 3: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 192

**BUS 194 Part-Time Cooperative Education 4: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 193

**BUS 195 Part-Time Cooperative Education 5: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 194

**BUS 196 Part-Time Cooperative Education 6: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 195

**BUS 280 Cooperative Education Seminar 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Students participate in activities that enhance employment options in a chosen career field, as an alternative to traditional cooperative education experience. A minimum grade of C is required to pass the course.

Prerequisites: Co-op coordinator consent  
Instructor Consent Required

**BUS 285 Cooperative Education Seminar 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Students participate in activities that enhance employment options in a chosen career field, as an alternative to traditional cooperative education experience. A minimum grade of C is required to pass the course.

Prerequisites: Co-op coordinator consent  
Instructor Consent Required

**BUS 291 Full-Time Cooperative Education 1: Business****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**BUS 292 Full-Time Cooperative Education 2: Business****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 291

**BUS 293 Full-Time Cooperative Education 3: Business****2 Credits. 2 Lecture Hours. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 292

## Paralegal (PAR & LAW)

### Paralegal (PAR)

The Paralegal degree program prepares students to become Paralegals, also known as Legal Assistants. While earning an Associate of Applied Business degree, students gain knowledge and skills required to assist attorneys, judges, and other legal professionals in many legal practice settings.

Students learn to investigate facts, conduct research on legal issues, interview clients, organize and evaluate case materials, draft legal documents, and communicate effectively with legal professionals. Students also gain knowledge of substantive and procedural law, concentrating on the most prevalent areas of legal practice.

In addition, students gain understanding of legal office procedures, time management, and organizational skills.

Cooperative education experience provides practical hands-on training to help students begin a career as a Paralegal.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Paralegal Certificate (LAW)

The Paralegal Certificate program at Cincinnati State prepares students for careers in the legal profession in three key employment areas: employees of attorneys (the dominant category), self-employed individuals who work for attorneys, and self-employed individuals who provide their services directly to the public with attorney supervision.

Students learn substantive and procedural law, concentrating on the most prevalent areas of legal practice, as well as general civil and criminal litigation practice.

Students earning the Administrative Assistant associate's degree with emphasis in the Legal Administrative Assistant track may wish to add the Paralegal Certificate to enhance their studies.

To be admitted to the certificate programs, students must have an associate's degree, a bachelor's degree, or Program Chair consent.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Paralegal (PAR)

### First Year

Semester 1		Lec	Lat	Credits
ENG 101	English Composition 1 ( G )	3	0	3
IM 165	Legal Office Environment ( B )	3	0	3
LAW 101	Business Law ( B )	3	0	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
IM 1XX	Computer Elective ( B )	2	2	3
MAT 1XX	Mathematics Elective ( G )	2	2	3
Semester 2				
BUS 190	Professional Practices ( B )	1	0	1
ENG 105	English Composition 2: Business Communication ( G )	3	0	3
IM 130	Electronic Word Processing: Microsoft Word ( T )	2	3	3
LAW 130	Estate Planning, Family and Probate Law ( T )	3	0	3
XXX XXX	Legal Specialty Elective 1 ( T )	3	0	3

### Semester 3

LAW 291	Full-Time Cooperative Education 1: Legal Assistant ( T )	1	40	2
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XXX XXX	Management/Marketing Elective ( B )	3	0	3
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### Semester 4

ACC 101	Financial Accounting ( B )	2	2	3
IM 225	Legal Transcription and Formatting ( T )	2	3	3

LAW 120	Legal Research and Writing ( T )	3	0	3
XXX XXX	Social Science Elective ( G )	3	0	3

XXX XXX	Legal Specialty Elective 2 ( T )	3	0	3
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LAW 292	Full-Time Cooperative Education 2: Legal Assistant ( T )	1	40	2
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### Semester 5

LAW 210	Litigation ( T )	3	0	3
LAW 290	Paralegal Capstone ( T )	2	3	3

XXX XXX	Legal Specialty Elective 3 ( T )	3	0	3
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XXX XXX	Arts/Humanities Elective ( G )	3	0	3
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Total Credits:		55	95	63
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XXX XXX	Arts/Humanities Elective ( G )	3	0	3
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Total Credits:		55	95	63
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## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Computer Elective (3 credit hours required)

IM 111	Computer Applications	3
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Or take the following sequence

IM 107 & IM 108 & IM 109	Introductory Electronic Presentations: Microsoft PowerPoint and Introductory Electronic Spreadsheets: Microsoft Excel and Introductory Database Management: Microsoft Access	3
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### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3
MAT 131	Statistics 1	3
MAT 151	College Algebra	4

**Management/Marketing Elective**

MGT 101	Principles of Management	3
MGT 105	Human Resource Management	3
MGT 120	Entrepreneurship	3
MGT 130	Project Management	3
MKT 101	Principles of Marketing *	3
MKT 110		3

**Legal Specialty Electives (9 credit hours required)**

ACC 115	Accounting Software Applications: Sage (Peachtree)	2
ACC 121	Computerized Bookkeeping: QuickBooks 1	1
ACC 122	Computerized Bookkeeping: QuickBooks 2	1
CRJ 105	Introduction to Criminal Justice	3
CRJ 135	Criminal Law	3
HIM 105	Legal Aspects of Health Information Management	2
IM 120	Electronic Spreadsheets: Microsoft Excel	3
IM 135	Business Document Formatting	3
IM 150	Electronic Presentations: Microsoft PowerPoint	3
IM 155	Emerging Technologies and Social Media	3
ITP 130	Legal Issues of Deafness	1
LAW 110	Employment Law	3
LAW 140	Copyright and Trademark Law in Entertainment Industries	3
LAW 150	Bankruptcy, Debt Collection and Secured Transactions	3
LAW 160	Immigration and Administrative Law Practices and Procedures	2
LBR 105	Introduction to Labor and Employee Relations	3
NDR 100	Introduction to Negotiation and Dispute Resolution	3
RE 105	Real Estate Law	3

**Arts/Humanities Elective**

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130	3
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**Social Science Elective**

Any Transfer Module course from GEO, HST, LBR, POL, PSY, SOC	3
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\* Has a corequisite of ECO 105

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

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G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Paralegal Certificate (LAW)**

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
LAW 101	Business Law	3	0	3
IM 130	Electronic Word Processing: Microsoft Word	2	3	3
IM 165	Legal Office Environment	3	0	3
XXX XXX	Computer Skills Elective	3	0	3
XXX XXX	Technical Elective	3	0	3
<b>Semester 2</b>				
LAW 120	Legal Research and Writing	3	0	3
LAW 130	Estate Planning, Family and Probate Law	3	0	3
LAW 210	Litigation	3	0	3
IM 225	Legal Transcription and Formatting	2	3	3
LAW 290	Paralegal Capstone	3	0	3
Total Credits:		28	6	30

**Electives****Computer Skills Elective (3 credit hours required)**

ACC 121	Computerized Bookkeeping: QuickBooks 1	1
ACC 122	Computerized Bookkeeping: QuickBooks 2	1
IM 107	Introductory Electronic Presentations: Microsoft PowerPoint	1
IM 108	Introductory Electronic Spreadsheets: Microsoft Excel	1
IM 109	Introductory Database Management: Microsoft Access	1
IM 111	Computer Applications	3
IM 120	Electronic Spreadsheets: Microsoft Excel	3
IM 135	Business Document Formatting	3
IM 140	Electronic Database Management: Microsoft Access	3
IM 145	Document Proofreading and Editing	3
IM 150	Electronic Presentations: Microsoft PowerPoint	3
IM 155	Emerging Technologies and Social Media	3

**Technical Elective (3 credit hours required)**

ACC 115	Accounting Software Applications: Sage (Peachtree)	2
ACC 175	Federal Taxation: Individuals	3
ACC 180	Federal Taxation: Business	3
CRJ 105	Introduction to Criminal Justice	3
CRJ 110	Introduction to Policing	3
CRJ 115	Introduction to Corrections	3
CRJ 120	Introduction to Courts	3
CRJ 125	Criminology	3
CRJ 130	Criminal Investigation Skills	3

CRJ 135	Criminal Law	3
HIM 105	Legal Aspects of Health Information Management	2
ITP 130	Legal Issues of Deafness	1
LAW 110	Employment Law	3
LAW 140	Copyright and Trademark Law in Entertainment Industries	3
LAW 150	Bankruptcy, Debt Collection and Secured Transactions	3
LBR 105	Introduction to Labor and Employee Relations	3
RE 105	Real Estate Law	3

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## Paralegal (PAR)

- Define legal terminology in numerous areas of the law.
- Identify major legal systems and functions of the law in American society.
- Discuss ethical rules and considerations applicable to the legal profession and non-attorney professionals.
- Draft a variety of documents, including case briefs, pleadings, discovery requests, office memoranda, correspondence, and legal forms.
- Analyze applicable case and statutory law for a variety of law-related topics and client scenarios.
- Apply legal research skills to support case law and statutory analysis, legal document preparation, and fact gathering in a variety of law-related situations.
- Demonstrate an understanding of the principles of e-filing, and how to locate local court rules and the civil rules of procedure.
- Demonstrate oral communication skills in a variety of educational and professional settings.
- Utilize law and office related technology resources in a variety of law office procedures, including file management, timekeeping, document management, document creation, eDiscovery, and social media.

## Faculty

### Interim Program Chair

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### Co-op Coordinator

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### Advisor

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## Courses

### LAW 101 Business Law

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the legal environment in which businesses operate. Prerequisites: ENG 085 (minimum grade C) or appropriate placement Ohio Transfer Assurance Guide Approved

### LAW 110 Employment Law

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on major federal laws regarding employment rights, and responsibilities of the employer and employee. Topics include: public policy and processes related to hiring, work environment, and resignation and termination; and recent trends in employment law. Prerequisites: ENG 080 or appropriate placement

### LAW 120 Legal Research and Writing

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for conducting legal research and composing legal documents. Topics include: research purposes and uses; citation procedure and format; computer research tools including LEXIS; and writing materials such as briefs, pleadings, memorandums, motions, and discovery documents. Prerequisites: LAW 101 and ENG 101

### LAW 130 Estate Planning, Family and Probate Law

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and processes of family and probate law and estate planning. Topics include: marriage, dissolution, divorce, and prenuptial agreements; child custody, visitation, and support; adoption and guardianship; juvenile law; and trusts and estate administration. Prerequisites: ENG 085 or appropriate placement, and LAW 101

### LAW 140 Copyright and Trademark Law in Entertainment Industries

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and processes used to protect intellectual property in entertainment industries. Topics include: representing creative talent; business and personality interests; licensing; copyright; and legal concerns in music publishing, sound recording, literary publishing, and film and television. Prerequisites: LAW 101

### LAW 150 Bankruptcy, Debt Collection and Secured Transactions

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the bankruptcy code and the bankruptcy process from debtor and creditor perspectives. Topics include: filing Chapter 7, 13, and 11 bankruptcies; individual and business liquidation and reorganization plans; and secured transactions including mortgages and other liens. Prerequisites: LAW 101

### LAW 160 Immigration and Administrative Law Practices and Procedures

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on forms, procedures, and case management methods used in immigration law and other administrative agencies. Topics include: intake, claim filing, processing, and handling appeals related to immigration, Social Security, unemployment, worker's compensation and other state and federal agencies. Prerequisites: LAW 101

**LAW 191 Part-Time Cooperative Education 1: Legal Assistant  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 190 (minimum grade C)

**LAW 192 Part-Time Cooperative Education 2: Legal Assistant  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 191

**LAW 193 Part-Time Cooperative Education 3: Legal Assistant  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 192

**LAW 194 Part-Time Cooperative Education 4: Legal Assistant  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 193

**LAW 195 Part-Time Cooperative Education 5: Legal Assistant  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 194

**LAW 196 Part-Time Cooperative Education 6: Legal Assistant  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 195

**LAW 210 Litigation****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and processes of criminal and civil litigation. Topics include: parties to lawsuits, pleadings, motion practice, Federal Rules of Civil and Criminal Procedure, Federal Rules of Evidence, discovery, trial judgments, and alternative dispute resolution.  
Prerequisites: LAW 101 and ENG 101

**LAW 290 Paralegal Capstone****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Students use knowledge and skills gained in previous courses to complete a project related to the duties of the paralegal.  
Prerequisites: IM 225 and LAW 120 (minimum grade C for both)

**LAW 291 Full-Time Cooperative Education 1: Legal Assistant  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 190 (minimum grade C)

**LAW 292 Full-Time Cooperative Education 2: Legal Assistant  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 291

**LAW 293 Full-Time Cooperative Education 3: Legal Assistant  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 292

## Real Estate Certificate (REC)

### Real Estate Certificate (REC)

The Real Estate Certificate provides knowledge and skills needed to enter the real estate field as a salesperson. The curriculum is approved by the State of Ohio Department of Commerce, Division of Real Estate, and prepares students for the state licensure exam. Other courses provide basic skills in business, salesmanship, and mathematics.

Courses completed for the certificate apply to the associate's degree program in Business Management or other business fields.

Real Estate courses are offered in the evening, online, and in hybrid format (partly online and partly in-person in the evening).

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Real Estate Certificate (REC)

Semester 1		Lec	Lat	Credits
RE 100	Real Estate Principles and Practices	3	0	3
RE 105	Real Estate Law	3	0	3
RE 110	Real Estate Appraisal and Finance	3	0	3
Semester 2				
ENG 101	English Composition 1	3	0	3



XXX XXX		3	0	3
Mathematics				
Elective				
XXX XXX		3	0	3
Technical				
Elective 1				
<b>Semester 3</b>				
MKT 130	Professional Selling	3	0	3
XXX XXX		3	0	3
Technical				
Elective 2				
XXX-XXX		3	0	3
Social				
Science				
Elective				
XXX XXX		3	0	3
Technical				
Elective 3				
Total Credits:		30	0	30

## Electives

### Technical Electives (9 credits required)

ACC 101	Financial Accounting	3
ACC 121	Computerized Bookkeeping: QuickBooks 1	1
ACC 122	Computerized Bookkeeping: QuickBooks 2	1
FIN 150	Business Finance **	3
LAW 101	Business Law **	3
MGT 105	Human Resource Management **	3
MGT 120	Entrepreneurship	3
MKT 101	Principles of Marketing *	3
MKT 250	Digital Marketing and Social Media	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 131	Statistics 1	3
MAT 151	College Algebra	4

### Social Science Elective

ECO 105	Principles of Microeconomics **	3
ECO 110	Principles of Macroeconomics **	3
CULT 110	Social Issues in Technology	3
PSY 110	Introduction to Psychology	3
SOC 105	Introduction to Sociology	3

\* Has a corequisite of ECO 105

\*\* These electives can be applied to the education requirements for an Ohio Real Estate Broker's License

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Program Chair/Advisor

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### Advisor

Eimee Donbar, MA  
eimee.donbar@cincinnatiastate.edu

## Courses

### RE 100 Real Estate Principles and Practices

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on real estate economics required prior to taking the sales license exam. Topics include: principles of contracts, civil rights, ethics, financing, brokerage, appraisal, and Ohio real estate practices.  
Prerequisites: None

### RE 105 Real Estate Law

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on Ohio Real Estate Law required prior to taking the sales license exam. Topics include: law of agency as applied to real estate; landlord/tenant law; estates; the sales contract; mortgages, deeds, and property; and financing, liens, and easements.  
Prerequisites: None

### RE 110 Real Estate Appraisal and Finance

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques related to residential real estate appraisal and finance, emphasizing Ohio real estate transactions. Topics include: finance instruments, loan processes and documentation, and appraisal methods. This course is required prior to taking the Ohio Real Estate Sales Licensing exam.  
Prerequisites: None

### RE 191 Part-Time Cooperative Education 1: Real Estate

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 190 (minimum grade C)

### RE 192 Part-Time Cooperative Education 2: Real Estate

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: RE 191

### RE 193 Part-Time Cooperative Education 3: Real Estate

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: RE 192

**RE 194 Part-Time Cooperative Education 4: Real Estate****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 193

**RE 195 Part-Time Cooperative Education 5: Real Estate****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 194

**RE 196 Part-Time Cooperative Education 6: Real Estate****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 195

**RE 291 Full-Time Cooperative Education 1: Real Estate****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**RE 292 Full-Time Cooperative Education 2: Real Estate****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 291

**RE 293 Full-Time Cooperative Education 3: Real Estate****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 292

## Culinary and Food Science Bachelor's Degree (CFS.BAS)

### Culinary and Food Science Bachelor's Degree (CFS.BAS)

The Bachelor of Applied Science degree in Culinary and Food Science prepares students to join the food industry as entry-level food scientists and technologists, or to enter related occupational areas including product research and development, quality control and food safety, regulatory compliance, food production supervision, and specialty ingredient sales.

During the first two years of the bachelor's program students focus on fundamentals of culinary arts. Students develop their skills in the Midwest Culinary Institute's state-of-the-art culinary and baking laboratories, under the supervision of faculty members with professional expertise.

In the third and fourth years students expand their culinary and food science skills. Upper-level coursework includes food ingredient functionality, food product design and development, sensory evaluation and testing, food microbiology, and other preparation for professional careers.

Students participate in experiential learning through cooperative education in each year of the bachelor's degree program.

Students who wish to transfer credit to Cincinnati State for previous coursework completed at another institution must meet with the Program Chair. Course transfer credit may be limited, based on program accreditation and student success in the previous coursework.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Culinary and Food Science (CFS)

**First Year****Semester 1**

		Lec	Lat	Credits
FYE XXX		1	0	1
First Year Experience				
CUL 100	Culinary Demonstration	2	0	2
CUL 101	Culinary 1	0	6	3
CUL 115	Food Service Sanitation	1	0	1
ENG 101	English Composition 1	3	0	3
IM 111	Computer Applications	2	3	3

**Semester 2**

BUS 190	Professional Practices	1	0	1
CUL 102	Culinary 2	0	6	3
CUL 105	Culinary Baking	0	6	3
ENG 10X	English Composition Elective	3	0	3
LAW 101	Business Law	3	0	3
MAT 151	College Algebra	3	2	4

**Semester 3**

CUL X9X	Cooperative Education Elective 1: Culinary Arts	1	40	2
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**Second Year****Semester 1**

CUL 110	Culinary Nutrition	0	6	3
CUL 200	Garde Manger	0	8	4

CUL 205	Culinary Production	0	6	3
HRM 110	Food and Beverage Cost Control	3	0	3
CHE 115	General, Organic, and Biological Chemistry	3	3	4

**Semester 2**

CUL X9X	Cooperative Education	1	40	2
Elective 2: Culinary Arts				

**Semester 3**

ACC 101	Financial Accounting	2	2	3
CUL 210	International Cuisine	0	6	3
CUL 290	Culinary Capstone	0	6	3
ECO 105	Principles of Microeconomics	3	0	3
MGT 105	Human Resource Management	3	0	3

**Third Year****Semester 1**

CHE 311	Chemistry and Analysis of Food 1	3	3	4
CFS 311	Food Product Development 1	2	2	3
CFS 320	Food Formulation	2	2	3
MAT 131	Statistics 1	2	2	3

**Semester 2**

BIO 310	Food Microbiology	2	3	3
CFS 340	Colloquium on Current Food Topics	3	0	3
XXX XXX	Arts/ Humanities Elective 1	3	0	3
CHE 312	Chemistry and Analysis of Food 2	3	3	4

**Semester 3**

CFS 491	Full-Time Cooperative Education 1: Culinary and Food Science	1	40	2
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**Fourth Year****Semester 1**

CFS 412	Food Product Development 2	3	2	4
CFS 420	Food Safety and Quality	3	0	3
XXX XXX	Arts/ Humanities Elective 2	3	0	3
XXX XXX	Social and Behavioral Sciences Elective	3	0	3

**Semester 2**

COMM 110	Public Speaking	3	0	3
CFS 430	Food Processing	3	2	4
CFS 440	Food Policy, Regulations and Compliance	3	0	3
CFS 490	Culinary and Food Science Capstone	1	4	3

**Semester 3**

CFS 492	Full-Time Cooperative Education 2: Culinary and Food Science	1	40	2
Total Credits:		79	243	122

**Electives****First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

**Arts/Humanities Electives (select 2 courses)**

ART 110	Introduction to Art	3
ART 111	Art History: Ancient to Medieval Periods	3
ART 112	Art History: Renaissance to the Present	3
COMM 130	Introduction to Film Studies	3
LIT 200	Introduction to Literature	3
LIT 210	The Short Story	3
LIT 220	Poetry	3
LIT 230	Drama	3
LIT 240	The Novel	3
LIT 251	American Literature to 1865	3
LIT 252	American Literature since 1865	3
LIT 255	African American Literature	3
LIT 261	British Literature: Medieval Period to 1800	3
LIT 262	British Literature: 1800 to Present	3
LIT 265	Shakespeare	3
LIT 270	Children's Literature	3
LIT 280	Science Fiction	3
LIT 285	Women Writers	3
MUS 101	Music History: Middle Ages to Late 19th Century	3
MUS 102	Music History: 20th Century	3
MUS 105	Music History: African-American Music	3
MUS 110	Jazz Appreciation	3
MUS 115	Rock and Pop Music	3
MUS 120	World Music	3
PHI 105	Introduction to Philosophy	3
PHI 110	Ethics	3
REL 105	World Religions	3
THE 105	Theater Appreciation	3
THE 110	History of Theater	3

**Social/Behavioral Science Elective (select 1 course)**

ECO 110	Principles of Macroeconomics	3
GEO 105	World Regional Geography: the Americas, Europe, and Australia	3
GEO 110	World Regional Geography: Asia, Africa, and the Middle East	3
GEO 115	Cultural Geography	3
HST 101	World History: First Civilizations to 1500	3

HST 102	World History: 1500 to Present	3
HST 111	American History: Early Settlers to 1877	3
HST 112	American History: 1877 to Present	3
HST 121	African American History: Origins to 1877	3
HST 122	African American History: 1877 to Present	3
HST 130	History of Africa	3
LBR 105	Introduction to Labor and Employee Relations	3
POL 101	Introduction to American Government	3
POL 102	Introduction to Comparative Governments and Politics	3
PSY 110	Introduction to Psychology	3
PSY 200	Abnormal Psychology	3
PSY 205	Child Development	3
PSY 210	Adolescent Development	3
PSY 215	Adult Development	3
PSY 220	Social Psychology	3
PSY 225	Lifespan Development	3
SOC 105	Introduction to Sociology	3
SOC 115	Marriage and the Family	3
SOC 130	Sociology of Aging	3
SOC 140	Sociology of Gender	3

**Cooperative Education Elective (4 credit hours required)**

CUL 191	Part-Time Cooperative Education 1: Culinary Arts	1
CUL 192	Part-Time Cooperative Education 2: Culinary Arts	1
CUL 193	Part-Time Cooperative Education 3: Culinary Arts	1
CUL 194	Part-Time Cooperative Education 4: Culinary Arts	1
CUL 291	Full-Time Cooperative Education 1: Culinary Arts	2
CUL 292	Full-Time Cooperative Education 2: Culinary Arts	2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Culinary and Food Science Bachelor's Degree (CFS.BAS)

Graduates of the program are prepared to:

- Use culinary arts, chemistry, microbiology, and other sciences to study the principles underlying the processing and deterioration of foods.
- Apply food science knowledge to determine the best ways to process, package, preserve, store, and distribute food.
- Apply technical communication skills related to food science.
- Apply food safety practices in a food production kitchen and in a food manufacturing facility and evaluate effectiveness.
- Create food products that meet the needs of the consumer and describe the product development process from ideation through commercialization.

- Analyze food content to establish levels of vitamins, fat, sugar, and protein.
- Conduct research on ways to make processed foods safe, palatable, and healthy.

## Faculty

### Program Chair / Advisor

Sien (Grace) Yek, MS, CCC  
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### Co-op Coordinator

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### Advisor

Beth McIlvain, MS  
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## CFS Courses

### CFS 311 Food Product Development 1

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on integration of culinary skills, food science knowledge, and effective use of functional ingredients to create high-quality and innovative food products. Topics include: general practices for food formulation, equipment use, and documentation.

Prerequisites: CHE 115 (minimum grade C) and CUL 290 and MAT 151, and instructor consent  
Instructor Consent Required

### CFS 320 Food Formulation

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on food formulation practices including analysis of ingredient functionality and the role of current food products in the delivery of a new value proposition. Topics include: product attributes and appeal, and nutrition and safety.

Prerequisites: CHE 115 (minimum grade C) and CUL 290 and MAT 151, and instructor consent  
Instructor Consent Required

### CFS 340 Colloquium on Current Food Topics

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Subject-matter experts from the food industry present information on current industry concerns from varied specialized areas, such as beverages, dairy, cultured foods, flavors, preservation, and baking science.

Prerequisites: CFS 320, and instructor consent  
Instructor Consent Required

### CFS 412 Food Product Development 2

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of CFS 311, covering business and scientific aspects of new food product development from ideation to commercialization. Topics include: consumer research, trend analysis, competitive product analysis, and integration of market research and sensory analysis in product development.

Prerequisites: CFS 311 (minimum grade C), and instructor consent  
Instructor Consent Required

**CFS 420 Food Safety and Quality****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on food production practices that assure quality and safety. Topics include: sanitation practices; control of pathogenic and spoilage microorganisms in food; and prevention, control, and mitigation of threats to the quality and safety of the food system.

Prerequisites: BIO 310 (minimum of C), and instructor consent  
Instructor Consent Required

**CFS 430 Food Processing****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on food production systems, including principles of scale-up and large-scale production systems, and packaging technologies.

Prerequisites: CFS 412 and CFS 420 and instructor consent  
Instructor Consent Required

**CFS 440 Food Policy, Regulations and Compliance****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on regulatory policies that affect food production. Topics include: the Code of Federal Regulations, regulatory agencies and their responsibilities, food labeling guidelines for dietary and health-related claims such as organic and natural, and permissible use of functional and enrichment additives.

Prerequisites: CFS 412 (minimum grade C), and instructor consent  
Instructor Consent Required

**CFS 490 Culinary and Food Science Capstone****3 Credits. 1 Lecture Hour. 4 Lab Hours.**

Students synthesize and apply knowledge and proficiency gained throughout the baccalaureate degree program to complete a project that demonstrates skills in problem-solving, communication, and project management, as well as professional competence.

Prerequisites: CFS 412 and CFS 420 (minimum grade C for both), and instructor consent  
Instructor Consent Required

**CFS 491 Full-Time Cooperative Education 1: Culinary and Food Science****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking a bachelor's degree participate in their first full-time field learning experience related to their Culinary and Food Science degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CFS 311 and CFS 320 and co-op coordinator consent  
Instructor Consent Required

**CFS 492 Full-Time Cooperative Education 2: Culinary and Food Science****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking a bachelor's degree participate in their second full-time field learning experience related to their Culinary and Food Science degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CFS 491 and co-op coordinator consent  
Instructor Consent Required

**CUL Courses****CUL 100 Culinary Demonstration****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that uses culinary demonstrations and problem solving to prepare students for activities in CUL 101.

Prerequisites: MAT 093 or appropriate placement

Corequisites: CUL 101

Instructor Consent Required

**CUL 101 Culinary 1****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on fundamental culinary skills. Topics include: kitchen orientation, knife skills, cooking methods, and preparation of stocks, sauces, and soups.

Prerequisites: MAT 093 (minimum grade C) or appropriate placement

Corequisites: CUL 100

Instructor Consent Required

**CUL 102 Culinary 2****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A continuation of CUL 101. Topics include: advanced cooking methods; meat, fish, and poultry cookery; and platter presentation.

Prerequisites: CUL 100 and CUL 101 and CUL 115 (minimum grade C for all)

Instructor Consent Required

**CUL 105 Culinary Baking****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on concepts and techniques of baking and pastries. Topics include: product identification, use of baking equipment, production of flour confectionery items, and preparation of desserts.

Prerequisites: CUL 100 and CUL 101 (minimum grade C for both)

Instructor Consent Required

**CUL 110 Culinary Nutrition****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on concepts and techniques for combining nutrition science with the art of preparing food that is wholesome and nutritionally balanced. Topics include: practical applications of nutrition theory, modifying recipes, and developing menus.

Prerequisites: CUL 102 (minimum grade C)

Instructor Consent Required

**CUL 115 Food Service Sanitation****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on sanitation and safety in the food service industry. Students complete the ServSafe certification exam as part of this course.

Prerequisites: ENG 085 or appropriate placement

**CUL 150 Culinary Management ATS: Advanced Stand****30 Credits. 30 Lecture Hours. 0 Lab Hour.**

Students complete industry training specific to culinary education, such as Cincinnati Cooks.

Prerequisites: Program Chair consent

Instructor Consent Required

**CUL 191 Part-Time Cooperative Education 1: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent  
Instructor Consent Required

**CUL 192 Part-Time Cooperative Education 2: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CUL 191

**CUL 193 Part-Time Cooperative Education 3: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CUL 192

**CUL 194 Part-Time Cooperative Education 4: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CUL 193

**CUL 195 Part-Time Cooperative Education 5: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CUL 194

**CUL 196 Part-Time Cooperative Education 6: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: None

**CUL 200 Garde Manger****4 Credits. 0 Lecture Hour. 8 Lab Hours.**

A course on concepts and techniques for contemporary practice of garde manger. Topics include: basic meat fabrication, knowledge of the cold kitchen, and platter and buffet presentation. Prerequisites: CUL 102 and CUL 105 (minimum grade C for both)  
Instructor Consent Required

**CUL 205 Culinary Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on concepts of food service production and service techniques. Topics include: buffet, banquet, and a la carte production. Prerequisites: CUL 102 (minimum grade C) and BUS 190  
Instructor Consent Required

**CUL 210 International Cuisine****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A study of world cuisines. Topics include: regional products, cultural influences on food, differentiated cooking techniques, and international menus. Prerequisites: CUL 200 (minimum grade C)  
Instructor Consent Required

**CUL 290 Culinary Capstone****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

Students complete project work while applying knowledge and skills from culinary, nutrition, costing, and management areas. Prerequisites: CUL 110 and CUL 200 and CUL 205 (minimum grade C for all)

**CUL 291 Full-Time Cooperative Education 1: Culinary Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent  
Instructor Consent Required

**CUL 292 Full-Time Cooperative Education 2: Culinary Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CUL 291

**CUL 293 Full-Time Cooperative Education 3: Culinary Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CUL 292

## Finance Technologies (FIN & BFSC)

### Finance Technology (FIN)

The Finance Technology associate's degree program provides students with knowledge and skills needed to succeed in entry-level and management training positions in financial institutions such as banks, insurance companies, investment firms, and corporate finance departments, as well as financial departments of non-profit organizations.

The field is broad and many opportunities are available to associate's degree program graduates with knowledge of financial matters. In addition, the Finance Technology program has established articulation

agreements with universities for students who wish to pursue a bachelor's degree.

The Finance Technology program can be completed through online learning.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Banking and Financial Services Certificate (BFSC)

The Banking and Financial Services Certificate prepares students for entry-level employment with commercial and community banks and other financial services organizations such as insurance companies and investment firms.

The certificate courses focus on understanding key financial concepts that are critical to serving financial institutions' clients, along with building skills in customer relations and interpersonal communication.

All courses in the certificate program also apply to the Finance Technology associate's degree program.

All certificate courses can be completed through online education.

The certificate program does not include cooperative education.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Finance Technology (FIN)

Semester 1		Lec	Lat	Credits
ACC 101	Financial Accounting ( B )	2	2	3
ENG 101	English Composition 1 ( G )	3	0	3
FIN 100	Personal Finance ( T )	3	0	3
LAW 101	Business Law ( B )	3	0	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
MAT XXX	Mathematics Elective ( G )	3	0	3
Semester 2				
ACC 102	Managerial Accounting ( T )	2	2	3
BUS 190	Professional Practices ( B )	1	0	1
FIN 120	Risk and Insurance ( T )	3	0	3
IM 120	Electronic Spreadsheets: Microsoft Excel ( B )	2	3	3

ENG 10X	English Composition Elective ( G )	3	0	3
FIN 130	Principles of Banking ( T )	3	0	3
Semester 3				
FIN X9X	Cooperative Education Elective 1: Finance ( T )	1	40	2
Semester 4				
ECO 110	Principles of Macroeconomics ( G )	3	0	3
FIN 150	Business Finance ( T )	3	0	3
XXX XXX	Technical Elective 1 ( T )	3	0	3
XXX XXX	Technical Elective 2 ( T )	3	0	3
Semester 5				
FIN 200	Investments ( T )	3	0	3
FIN X9X	Cooperative Education Elective 2: Finance ( T )	1	40	2
Semester 6				
COMM 1XX	Communication Elective ( B )	3	0	3
MKT XXX	Marketing Elective ( B )	3	0	3
XXX XXX	Arts/ Humanities Elective or Natural/ Physical Science Elective ( G )	3	0	3
XXX XXX	Technical Elective 3 ( T )	3	0	3
Total Credits:		58	87	63

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3

MAT 125	Algebra and Trigonometry	4
MAT 126	Functions and Calculus	4
MAT 131	Statistics 1	3
MAT 132	Statistics 2	3
MAT 151	College Algebra	4
MAT 215	Business Calculus	6
MAT 251	Calculus 1	5
MAT 252	Calculus 2	5

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

**Communication Elective**

COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3

**Marketing Elective**

MKT 101	Principles of Marketing	3
MKT 105	Marketing and Customer Relations	3
MKT 130	Professional Selling	3

**Arts/Humanities Elective or Natural/Physical Science Elective (select one course)**

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130	3
or, any Transfer Module course from BIO, CHE, EVS, PHY, PSC	3

**Cooperative Education Electives (4 credit hours required)**

FIN 191	Part-Time Cooperative Education 1: Finance	1
FIN 192	Part-Time Cooperative Education 2: Finance	1
FIN 193	Part-Time Cooperative Education 3: Finance	1
FIN 194	Part-Time Cooperative Education 4: Finance	1
FIN 291	Full-Time Cooperative Education 1: Finance	2
FIN 292	Full-Time Cooperative Education 2: Finance	2

**Technical Electives (Total of 9 credits are required. Meet with your academic advisor to choose your electives)**

ACC 115	Accounting Software Applications: Sage (Peachtree)	2
ACC 121	Computerized Bookkeeping: QuickBooks 1	1
ACC 122	Computerized Bookkeeping: QuickBooks 2	1
ACC 175	Federal Taxation: Individuals	3
ACC 180	Federal Taxation: Business	3
ECO 105	Principles of Microeconomics	3
FIN 175	Retirement and Employee Benefit Planning	3
LAW 130	Estate Planning, Family and Probate Law	3
LBR 105	Introduction to Labor and Employee Relations	3
MGT 101	Principles of Management	3
MGT 105	Human Resource Management	3
MGT 120	Entrepreneurship	3
RE 100	Real Estate Principles and Practices	3
RE 105	Real Estate Law	3
RE 110	Real Estate Appraisal and Finance	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Banking and Financial Service Certificate (BFSC)

**First Year**

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
FIN 100	Personal Finance	3	0	3
ENG 101	English Composition 1	3	0	3
COMM 105	Interpersonal Communication	3	0	3
IM XXX	Computer Skills Elective	2	3	3
MAT XXX	Mathematics Elective	2	2	3

**Semester 2**

ACC 101	Financial Accounting	3	0	3
ECO 110	Principles of Macroeconomics	3	0	3
FIN 130	Principles of Banking	3	0	3
FIN XXX	Finance Elective	3	0	3
MKT 105	Marketing and Customer Relations	3	0	3

Total Credits:	28	5	30
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**Electives**

**Students must consult with an Academic Advisor when choosing electives**

**Computer Skills Elective**

IM 111	Computer Applications	3
IM 120	Electronic Spreadsheets: Microsoft Excel	3

**Mathematics Elective**

MAT 111	Business Mathematics	3
MAT 131	Statistics 1	3

**Finance Elective**

FIN 120	Risk and Insurance	3
FIN 200	Investments	3



Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Finance Technology (FIN)

- Prepare a comprehensive personal financial plan for an individual.
- Apply time value of money concepts to decision-making in both personal and corporate financial planning.
- Demonstrate knowledge of corporate financial decision-making to include financial statement analysis, cash management, capital investment, securities valuation, and international finance decisions.
- Develop an appropriate portfolio of securities for an individual, considering risk tolerance and time horizon.
- Create a risk assessment for an individual or small business using principles of risk and insurance.
- Describe the framework of the US and global financial system and the role of individual financial institutions in this framework.
- Demonstrate employability skills in a financial environment.

## Faculty

### Program Chair

Margaret (Meg) Clark, MBA, CFP  
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### Co-op Coordinator

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### Advisor

Eimee Donbar, MA  
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## Courses

### FIN 100 Personal Finance

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on coordinated and realistic personal financial planning. Topics include: budgeting and tax planning, managing liquidity, personal loans, purchasing cars and homes, insurance and investing principles, and retirement and estate planning.

Prerequisites: None

### FIN 120 Risk and Insurance

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of risk management and insurance for enterprises and individuals. Topics include: fundamentals of life, health, property, and liability insurance; and enterprise risk management for businesses.

Prerequisites: None

### FIN 130 Principles of Banking

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental principles and practices of banking and credit in the United States. Topics include: financial services operations including human resources, marketing, and ethics; money and interest; negotiable instruments; mortgages; commercial lending; security; and the role of banking in today's economy.

Prerequisites: None

### FIN 150 Business Finance

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of financing business firms. Topics include: financial statement analysis, time value of money, management of cash flow, risk and return, and short and long-term sources of financing.

Prerequisites: ACC 101

### FIN 175 Retirement and Employee Benefit Planning

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developing retirement plans and employee benefit plans. Topics include: legislation that affects plan design; tax advantages and disadvantages of various retirement plans; and Social Security, Medicare, and employer-sponsored health and welfare plans. This course is offered only through online learning.

Prerequisites: FIN 100 or ACC 101

### FIN 191 Part-Time Cooperative Education 1: Finance

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190 (minimum grade C)

### FIN 192 Part-Time Cooperative Education 2: Finance

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 191

### FIN 193 Part-Time Cooperative Education 3: Finance

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 192

### FIN 194 Part-Time Cooperative Education 4: Finance

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 193

**FIN 195 Part-Time Cooperative Education 5: Finance****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 194

**FIN 196 Part-Time Cooperative Education 6: Finance****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 195

**FIN 200 Investments****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on securities and the markets in which they are traded, and sources of financial information. Topics include: features and characteristics of financial instruments such as money market instruments, stocks, bonds, international securities, options, and futures contracts. This course is offered only through online learning.

Prerequisites: FIN 100 or ACC 101

**FIN 291 Full-Time Cooperative Education 1: Finance****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**FIN 292 Full-Time Cooperative Education 2: Finance****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 291

**FIN 293 Full-Time Cooperative Education 3: Finance****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 292

## Hospitality Technologies

The Hospitality Technologies programs provide students with the knowledge and skills required for a range of positions in food service, lodging, and health care.

The department includes the Midwest Culinary Institute (MCI) at Cincinnati State, a nationally-recognized center for culinary education.

Associate's degrees and certificates lead to entry-level work opportunities and support continued education for the baccalaureate degree. In addition, the MCI offers an array of professional development opportunities and non-credit community classes.

The MCI's state-of-the-art facilities, located in the Advanced Technology & Learning Center on Cincinnati State's Clifton Campus, feature eight distinctive kitchens, a decorating lab, butcher shop and fish shop, demonstration studio, restaurant, and restaurant kitchen. The instructional kitchens include individual work stations for each student. An advanced multimedia system is built into the facility and supports the integration of computer technology into the curriculum.

Associate's degree programs offered by Hospitality Technologies are:

- Brewing Science (p. 42)
- Culinary Arts (p. 46)
- Dietetic Technology (p. 50)
- Hospitality Management (p. 54)
- Pastry Arts (p. 58)
- Pre-Nutrition Science (p. 61)

These programs include cooperative education work experience or other forms of experiential education or service learning.

Hospitality Technologies also offer three certificates:

- Brewing Sales and Marketing (p. 42)
- Culinary Arts (p. 46)
- Dietary Management (p. 50)

All certificate programs include professional management courses certified by the National Restaurant Association.

For more information, please contact the Business Technologies Division at (513) 569-1620.

## Brewing Science (BREW & BREWC)

### Brewing Science (BREW)

The craft beer and beverage industry is one of the fastest growing in the United States and many other parts of the world.

The Brewing Science associate's degree program provides knowledge and skills related to introductory and advanced production processes, finishing and packaging techniques, product analysis, and operation of brewing facilities. Cooperative education experiences add to the student's career-readiness.

Graduates of the Brewing Science program earn an Associate of Applied Science degree, and are qualified for employment opportunities in many areas of the craft beverage industry including brewer/assistant brewer, cellar manager, or brewery manager.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Brewing Sales and Marketing Certificate (BREWC)

The Brewing Sales and Marketing Certificate prepares its graduates for employment opportunities in many areas of the craft beverage industry

including brewery representative, craft beer sales and distribution, or tasting room management.

Students develop skills and gain knowledge of topics such as sensory evaluation of beverages, taproom management, and key components of beer tourism.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Brewing Science (BREW)

Student applicants must be at least 21 years of age before entering the program. Applicants must be able to work in a physically demanding environment including, but not limited to, standing in a hot and wet work area for extended lengths of time, climbing stairs, repeatedly lifting equipment and products weighing up to 55 lbs., and safely maneuvering by hand equipment that weighs up to 170 lbs.

### First Year

Semester 1		Lec	Lat	Credits
FYE 1XX	First Year Experience Elective (B)	1	0	1
BREW 110	Brewing Sanitation and Safety (B)	2	0	2
BREW 160	Sensory Evaluation of Beer (T)	2	3	3
CHE 110	Fundamentals of Chemistry (G)	3	3	4
HRM 110	Food and Beverage Cost Control (B)	3	0	3
MAT 1XX	Mathematics Elective (G)	2	2	3
Semester 2				
ACC 101	Financial Accounting (B)	3	0	3
BREW 120	Brewing Technology and Calculations (T)	1	3	2
BREW 140	Brewing Ingredients (T)	2	2	3
BREW 150	Applied Brewing Microbiology (T)	3	2	4
BUS 190	Professional Practices (B)	1	0	1
ENG 101	English Composition 1 (G)	3	0	3
Semester 3				
BREW X9X	Cooperative Education Elective: Brewing Science (T)	1	40	2
Second Year				
Semester 4				
BREW 130	Brewing Production (T)	2	4	4
COMM 110	Public Speaking (B)	3	0	3
ECO 105	Principles of Microeconomics (G)	3	0	3

ENG 10X	English Composition Elective (G)	3	0	3
XXX XXX	Technical Elective (T)	3	0	3
Semester 5				
XXX XXX	Arts/Humanities Elective (B)	3	0	3
BREW 220	Brewing Packaging, Materials, and Quality Control (T)	2	3	3
BREW 230	Advanced Brewing Production (T)	3	3	4
BREW 240	Legal Issues in Brewing and Beverages (T)	2	2	3
BREW 250	Practical Malting and Brewing (T)	2	2	3
Total Credits:		53	69	66

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 125	Algebra and Trigonometry	4
MAT 131	Statistics 1	3
MAT 151	College Algebra	4
MAT 152	Trigonometry	4
MAT 153	Pre-Calculus	6
MAT 215	Business Calculus	6
MAT 251	Calculus 1	5
MAT 252	Calculus 2	5
MAT 253	Calculus 3	5

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication (Arts/Humanities Elective)	3

### Arts/Humanities Elective

Any ART, LIT, MUS, PHI, REL, THE	3
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### Technical Elective

MGT 120	Entrepreneurship	3
BREW 210	Beverage Marketing and Sales	3

### Cooperative Education Elective (2 credits required)

BREW 191	Part-time Cooperative Education 1: Brewing Science	1
BREW 192	Part-Time Cooperative Education 2: Brewing Science	1
BREW 291	Full-Time Cooperative Education 1: Brewing Science	2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Brewing Sales and Marketing (BREWC)

**Program prerequisite:** Applicants must be at least 21 years old before entering the certificate program.

### First Year

Semester 1		Lec	Lat	Credits
BREW 100	Introduction to Craft Beer	3	0	3
BREW 160	Sensory Evaluation of Beer	2	3	3
HRM 110	Food and Beverage Cost Control	3	0	3
MKT 130	Professional Selling	3	0	3

### Semester 2

MKT 105	Marketing and Customer Relations	3	0	3
BREW 210	Beverage Marketing and Sales	3	0	3
BREW 240	Legal Issues in Brewing and Beverages	3	0	3
BREW 105	Beverage Tour and Tasting Management	2	2	3

Total Credits: 24

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Brewing Science (BREW)

- Explain the compositional features of the four essential brewing raw materials (malt, hops, water, and yeast) and articulate the technological and manufacturing processes required to transform the four essential raw materials into forms suitable for brewing.
- Summarize the basics of brewery cleaning and sanitation as well as identify the key microbial chemical and physical threats to brewing and beer quality.
- Demonstrate the ability to design and brew beers that meet generally accepted standards and that reflect characteristics of primary beer styles.

- Explain the quality attributes of beer, such as foam, stability, color, aroma, and attenuation, and interpret the reasons why a product deviates from expected performance.
- Identify and describe the key contributors to beer flavor, including defects, the pathways by which they arise, and how these flavors can be controlled.
- Differentiate between the principles of QA and QC and outline the essential components of a quality system within a brewery.
- Explain the relevance of key analytical parameters applied to malt, hops, water, and yeast and show competency in interpreting key analytical parameters for malt, adjuncts, water, hops, yeast, wort, and beer.
- Perform analytical measurements using industry-recognized standard methods and instrumentation on raw materials, in-process streams, finished products, and packaged beer for the purpose of assessing their quality as well as demonstrate knowledge of in-line instrumentation and critical process measurement points (CPMP).
- Demonstrate knowledge of the regulatory environment with regard to overseeing breweries (e.g., food safety, brew house safety, environmental compliance, labeling, etc.) and demonstrate knowledge of social and regulatory environments regarding reasonable standards for responsible consumption.
- Demonstrate knowledge of sustainability practices for raw materials, water, energy, and processing and brewery waste.

## Faculty

### Program Chair

Carla Gesell-Streeter, MA, Cicerone Certified Beer Server, Master Brewers Assn of the Americas Associate Beer Steward  
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### Co-op Coordinator

Scott Holubetz, AAB, AOS, BA  
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### Advisor

Beth McIlvain, MS  
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## Courses

### BREW 100 Introduction to Craft Beer 3 Credits. 3 Lecture Hours. 0 Lab Hour.

An introduction to craft beers and brewing for those not pursuing the Brewing Science associate's degree. Topics include: beer and brewing history, production, characteristics, taxonomy, and evaluation.

Prerequisites: None

### BREW 105 Beverage Tour and Tasting Management 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on developing, marketing, and managing the craft beverage tour experience. Topics include: providing customer service, implementing special events, and operating a tasting room.

Prerequisites: BREW 100

**BREW 110 Brewing Sanitation and Safety****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on sanitation and safety procedures applicable to brewing products, facilities, and equipment. Topics include: selecting, handling, and storing the chemicals required for sanitation control within the brewing process.

Prerequisites: Admitted to the BREW degree program

**BREW 120 Brewing Technology and Calculations****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on the equipment and mathematical calculations used in craft brewing production. Topics include: using brewing equipment and other technology related to scheduling/record keeping, developing recipes, and calculating use of alcohol and other ingredients.

Prerequisites: Admitted to the BREW degree program, and MAT 093 or MAT 105 or appropriate placement

**BREW 130 Brewing Production****4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on basic methodologies used in the production of beers. Topics include: recipe development, basic sanitation techniques, fermentation management, and storage.

Prerequisites: BREW 110 and BREW 120

**BREW 140 Brewing Ingredients****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how ingredients used in the beer-making process affect the style and quality of beer. Topics include: selecting and growing barley, varieties of malting, growing hops, and the effect of hops in development of beer flavor and aroma.

Prerequisites: BREW 110 and BREW 120

**BREW 150 Applied Brewing Microbiology****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on microbiology concepts and laboratory practices applicable to the brewing industry. Topics include: yeast biology, fermentation, microorganisms in brewing, and sanitation.

Prerequisites: BREW 110 and CHE 110

**BREW 160 Sensory Evaluation of Beer****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the visual, olfactory, and gustatory parameters used in the evaluation of beer. Topics include: aromas, finish, flavor/taste interaction, and factors affecting product quality; descriptive analysis/model systems; judging systems; and set-up and operation of beverage competitions.

Prerequisites: Admitted to the BREW degree program or BREWC certificate program

Instructor Consent Required

**BREW 191 Part-time Cooperative Education 1: Brewing Science****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**BREW 192 Part-Time Cooperative Education 2: Brewing Science****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 191

Instructor Consent Required

**BREW 193 Part-Time Cooperative Education 3: Brewing Science****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 192

Instructor Consent Required

**BREW 194 Part-time Cooperative Education 4: Brewing Science****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 193

Instructor Consent Required

**BREW 195 Part-Time Cooperative Education 5: Brewing Science****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 194

Instructor Consent Required

**BREW 196 Part-Time Cooperative Education 6: Brewing Science****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 195

Instructor Consent Required

**BREW 210 Beverage Marketing and Sales****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on marketing and selling beer and other brewed, fermented, or distilled products. Topics include: industry/consumer trends; and economic, legal, and social considerations that affect beverage marketing and sales, including branding, pricing, promotion, and distribution.

Prerequisites: BREW 160

**BREW 220 Brewing Packaging, Materials, and Quality Control  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on practices associated with packaging beer, including canning, bottling, box presentations, and kegging. Topics include: expanding product shelf life; selecting containers; controlling temperature and light; and evaluating options for labeling, capping, and sealing.

Prerequisites: BREW 140

**BREW 230 Advanced Brewing Production  
4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on processes and equipment used in an on-site brewery and fermentation facility. Topics include: analyzing and monitoring fermentation, producing specialty beers, quality control, sustainable brewing practices, and operating and managing brewing facilities.

Prerequisites: BREW 140

**BREW 240 Legal Issues in Brewing and Beverages  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the legal and regulatory environment applicable to the brewing, distillation, and fermentation industries. Topics include: social and ethical responsibilities; and state/federal regulations including licensing, taxation, labeling, record keeping, permits, inspections, and interstate/international commerce.

Prerequisites: BREW 160

**BREW 250 Practical Malting and Brewing  
3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to the basic methodology used in malting and brewing laboratories to analyze raw materials and monitor the process and product. Topics include: analysis and characterization of raw materials, identifying the impact of raw materials and process conditions on performance and quality, and interpreting data related to understanding malting and brewing science.

Prerequisites: BREW 140

**BREW 291 Full-Time Cooperative Education 1: Brewing Science  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**BREW 292 Full-Time Cooperative Education 2: Brewing Science  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 291

Instructor Consent Required

**BREW 293 Full-Time Cooperative Education 3: Brewing Science  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 292

Instructor Consent Required

## Culinary Arts (CUL & CAC)

### Culinary Arts (CUL)

In the Culinary Arts program at Cincinnati State, students receive training in all aspects of food preparation, including methods of cookery, sauces, soups, butchery, garde manger, pastry, and confectioneries, in addition to culinary management.

Graduates of the Culinary Arts program earn an Associate of Applied Business degree.

Graduates may choose to continue in Cincinnati State's Bachelor of Applied Science in Culinary and Food Science (p. 34).

Students who wish to transfer credit to Cincinnati State for culinary coursework completed at another institution must meet with the Program Chair. Course transfer credit may be limited, based on program accreditation and student success in the previous culinary coursework.

The Culinary Arts degree program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). Website: <http://www.acfchefs.org>.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Culinary Arts Certificate (CAC)

The Culinary Arts Certificate is designed for the serious hobbyist rather than the industry professional-in-training. Courses focus on food service sanitation and basic cooking skills.

Certificate courses also apply to the Culinary Arts associate's degree program.

Students in the certificate program are not eligible for financial aid or Kentucky reciprocity.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Culinary Arts (CUL)

Semester 1		Lec	Lat	Credits
CUL 100	Culinary Demonstration ( T )	2	0	2
CUL 101	Culinary 1 ( T )	0	6	3
ENG 101	English Composition 1 ( G )	3	0	3
IM 111	Computer Applications ( B )	2	3	3
FYE 1XX		1	0	1
First Year				
Experience				
Elective ( B )				
CUL 115	Food Service Sanitation ( B )	1	0	1

**Semester 2**

BUS 190	Professional Practices ( <b>B</b> )	1	0	1
CUL 102	Culinary 2 ( <b>T</b> )	0	6	3
CUL 105	Culinary Baking ( <b>T</b> )	0	6	3
LAW 101	Business Law ( <b>B</b> )	3	0	3
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
MAT 1XX	Mathematics Elective ( <b>G</b> )	3	0	3

**Semester 3**

CUL X9X	Cooperative Education Elective 1: Culinary Arts ( <b>T</b> )	1	40	2
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**Semester 4**

CUL 110	Culinary Nutrition ( <b>T</b> )	0	6	3
CUL 200	Garde Manger ( <b>T</b> )	0	8	4
CUL 205	Culinary Production ( <b>T</b> )	0	6	3
HRM 110	Food and Beverage Cost Control ( <b>B</b> )	3	0	3
XXX XXX	Arts/ Humanities or Natural Science Elective ( <b>G</b> )	3	0	3

**Semester 5**

CUL X9X	Cooperative Education Elective 2: Culinary Arts ( <b>T</b> )	1	40	2
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**Semester 6**

ACC 101	Financial Accounting ( <b>B</b> )	2	2	3
CUL 210	International Cuisine ( <b>T</b> )	0	6	3
CUL 290	Culinary Capstone ( <b>T</b> )	0	6	3
ECO 105	Principles of Microeconomics ( <b>G</b> )	3	0	3
MGT 105	Human Resource Management ( <b>B</b> )	3	0	3

Total Credits:		35	135	64
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**Electives****First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3

ENG 104	English Composition 2: Technical Communication	3
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ENG 105	English Composition 2: Business Communication	3
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**Mathematics Elective**

MAT 105	Quantitative Reasoning	3
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MAT 111	Business Mathematics	3
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MAT 131	Statistics 1	3
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MAT 151	College Algebra	4
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**Arts/Humanities Elective or Natural Science Elective (select 1 course)**

ART 110	Introduction to Art	3
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ART 111	Art History: Ancient to Medieval Periods	3
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ART 112	Art History: Renaissance to the Present	3
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COMM 130	Introduction to Film Studies	3
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LIT 200	Introduction to Literature	3
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LIT 210	The Short Story	3
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LIT 220	Poetry	3
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LIT 230	Drama	3
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LIT 240	The Novel	3
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LIT 251	American Literature to 1865	3
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LIT 252	American Literature since 1865	3
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LIT 255	African American Literature	3
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LIT 261	British Literature: Medieval Period to 1800	3
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LIT 262	British Literature: 1800 to Present	3
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LIT 265	Shakespeare	3
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LIT 270	Children's Literature	3
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LIT 280	Science Fiction	3
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LIT 285	Women Writers	3
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MUS 101	Music History: Middle Ages to Late 19th Century	3
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MUS 102	Music History: 20th Century	3
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MUS 105	Music History: African-American Music	3
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MUS 110	Jazz Appreciation	3
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MUS 115	Rock and Pop Music	3
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MUS 120	World Music	3
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PHI 105	Introduction to Philosophy	3
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PHI 110	Ethics	3
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REL 105	World Religions	3
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THE 105	Theater Appreciation	3
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THE 110	History of Theater	3
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CHE 115	General, Organic, and Biological Chemistry	4
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**Cooperative Education Electives (4 credit hours required)**

CUL 191	Part-Time Cooperative Education 1: Culinary Arts	1
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CUL 192	Part-Time Cooperative Education 2: Culinary Arts	1
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CUL 193	Part-Time Cooperative Education 3: Culinary Arts	1
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CUL 194	Part-Time Cooperative Education 4: Culinary Arts	1
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CUL 291	Full-Time Cooperative Education 1: Culinary Arts	2
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CUL 292	Full-Time Cooperative Education 2: Culinary Arts	2
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Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Culinary Arts Certificate (CAC)

Semester 1		Lec	Lab	Credits
CUL 100	Culinary Demonstration	2	0	2
CUL 101	Culinary 1	0	6	3
CUL 102	Culinary 2	0	6	3
CUL 115	Food Service Sanitation	1	0	1
XXX XXX	Culinary Elective			3
Total Credits:		3	12	12

## Electives

### Culinary Elective

CUL 105	Culinary Baking	3
CUL 110	Culinary Nutrition	3
HRM 110	Food and Beverage Cost Control	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Culinary Arts (CUL)

- Demonstrate acceptable procedures when preparing potentially hazardous foods.
- Demonstrate good personal hygiene and health habits.
- Demonstrate safe and competent knife skills and tool and equipment operation.
- Use a standardized recipe.
- Prepare a variety of non-grand and classical sauces.
- Perform basic fabrication tasks with meat, poultry, and seafood.
- Calculate food costs and percentages.
- Evaluate the relationship of beverages to food.
- Demonstrate the ability to earn gainful employment working in the culinary industry.

## Faculty

### Interim Program Chair

Chef Mary (Betsy) Lasorella, CEPC  
mary.lasorella@cincinnatiatstate.edu

### Co-op Coordinator

Scott Holubetz, AAB, AOS, BA  
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### Advisors

Chef Margaret (Meg) Galvin, CEC, WMCS  
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Sien (Grace) Yek, MS, CCC  
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Beth McIlvain, MS  
beth.mcilvain@cincinnatiatstate.edu

## CUL Courses

### CUL 100 Culinary Demonstration

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that uses culinary demonstrations and problem solving to prepare students for activities in CUL 101.

Prerequisites: MAT 093 or appropriate placement

Corequisites: CUL 101

Instructor Consent Required

### CUL 101 Culinary 1

**3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on fundamental culinary skills. Topics include: kitchen orientation, knife skills, cooking methods, and preparation of stocks, sauces, and soups.

Prerequisites: MAT 093 (minimum grade C) or appropriate placement

Corequisites: CUL 100

Instructor Consent Required

### CUL 102 Culinary 2

**3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A continuation of CUL 101. Topics include: advanced cooking methods; meat, fish, and poultry cookery; and platter presentation.

Prerequisites: CUL 100 and CUL 101 and CUL 115 (minimum grade C for all)

Instructor Consent Required

### CUL 105 Culinary Baking

**3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on concepts and techniques of baking and pastries. Topics include: product identification, use of baking equipment, production of flour confectionery items, and preparation of desserts.

Prerequisites: CUL 100 and CUL 101 (minimum grade C for both)

Instructor Consent Required

### CUL 110 Culinary Nutrition

**3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on concepts and techniques for combining nutrition science with the art of preparing food that is wholesome and nutritionally balanced. Topics include: practical applications of nutrition theory, modifying recipes, and developing menus.

Prerequisites: CUL 102 (minimum grade C)

Instructor Consent Required



**CUL 115 Food Service Sanitation****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on sanitation and safety in the food service industry. Students complete the ServSafe certification exam as part of this course.

Prerequisites: ENG 085 or appropriate placement

**CUL 150 Culinary Management ATS: Advanced Stand****30 Credits. 30 Lecture Hours. 0 Lab Hour.**

Students complete industry training specific to culinary education, such as Cincinnati Cooks.

Prerequisites: Program Chair consent

Instructor Consent Required

**CUL 191 Part-Time Cooperative Education 1: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent

Instructor Consent Required

**CUL 192 Part-Time Cooperative Education 2: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CUL 191

**CUL 193 Part-Time Cooperative Education 3: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CUL 192

**CUL 194 Part-Time Cooperative Education 4: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CUL 193

**CUL 195 Part-Time Cooperative Education 5: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CUL 194

**CUL 196 Part-Time Cooperative Education 6: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CUL 200 Garde Manger****4 Credits. 0 Lecture Hour. 8 Lab Hours.**

A course on concepts and techniques for contemporary practice of garde manger. Topics include: basic meat fabrication, knowledge of the cold kitchen, and platter and buffet presentation.

Prerequisites: CUL 102 and CUL 105 (minimum grade C for both)

Instructor Consent Required

**CUL 205 Culinary Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on concepts of food service production and service techniques. Topics include: buffet, banquet, and a la carte production.

Prerequisites: CUL 102 (minimum grade C) and BUS 190

Instructor Consent Required

**CUL 210 International Cuisine****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A study of world cuisines. Topics include: regional products, cultural influences on food, differentiated cooking techniques, and international menus.

Prerequisites: CUL 200 (minimum grade C)

Instructor Consent Required

**CUL 290 Culinary Capstone****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

Students complete project work while applying knowledge and skills from culinary, nutrition, costing, and management areas.

Prerequisites: CUL 110 and CUL 200 and CUL 205 (minimum grade C for all)

**CUL 291 Full-Time Cooperative Education 1: Culinary Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent

Instructor Consent Required

**CUL 292 Full-Time Cooperative Education 2: Culinary Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CUL 291

**CUL 293 Full-Time Cooperative Education 3: Culinary Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CUL 292

# Dietetic Technology (DT & DMC)

## Dietetic Technology (DT)

Dietetic technicians are trained in food preparation and nutrition and are an integral part of health care and food service management teams. They promote optimal health through proper nutrition by providing personalized services to meet clients' nutritional needs, and are trained to supervise people who prepare and serve food.

Dietetic technicians work independently or in teams with registered dietitians in a variety of employment settings, including hospitals, nursing care centers, retirement centers, schools, food companies, and community health programs.

Program graduates earn an Associate of Applied Science degree that includes 472 hours of directed practice and practicums. Students are also required to complete an additional 31 hours of professional meetings, food shows, and wellness and program support activities.

### Program Mission and Goals

#### Mission

The program will provide legendary educational experiences in preparing students for entry into positions involving food, nutrition, foodservice management and dietetics. We promise to:

- Be student/customer-centered
- Support success based academic standards
- Provide world-class clinical and experiential learning
- Provide comprehensive academic offerings

#### Goals

Goal 1: Prepare graduates who are competent for entry-level dietetic technician positions involving food, nutrition, and foodservice management.

#### Objectives:

70% of program graduates will pass the NDTR credentialing exam on the first attempt.

70% of program graduates will pass the NDTR credentialing exam within one year of first attempt.

Within 12 months of graduation from the program, 65% of graduates will obtain nutrition related work.

80% of students will complete the degree requirements within 3 years (150% of the two-year program length).

Goal 2: Graduates will be prepared to reflect standards of the dietetic technician and meet the employment needs of the tri-state area and the nation.

#### Objectives:

Completion rates will be 70% or greater for the degree program.

80% of employers of program graduates will rate graduates performance at 4 or better on a 5-item scale.

80% of program graduates will rate their faculty and academic advising as "satisfied" or "very satisfied."

80% of program graduates will rate their satisfaction with clinical or directed practice experience as "satisfied" or "very satisfied."

Program outcomes data are available on request.

More information about the program, such as the process to become a Registered Dietetic Technician (DTR), costs, and completion requirements, is provided in the Student Handbook, which can be downloaded from the Dietetic Technology page of the College website.

The program is accredited by the Accreditation Council for Education in Nutrition and Dietetics, 120 South Riverside, Plaza Suite 2000, Chicago IL 60606. Website [www.eatrightacend.org](http://www.eatrightacend.org) (<https://www.eatrightpro.org/acend/>). Phone (312) 899-0040, extension 5400.

Graduates of the program are eligible to take the Exam for Dietetic Technicians' national exam to become a Dietetic Technician, Registered.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Dietary Management Certificate (DMC)

Dietary Managers work in teams with registered dietitians and dietetic technicians and are an integral part of health care and food service management teams. The Dietary Management Certificate program provides courses in food service management, nutrition, sanitation, and human resource.

Program graduates earn a Certificate as a Dietary Manager which includes 252 hours of directed practice and practicums. Students are also required to complete an additional 27 hours of professional meetings, food show, and wellness and program support.

The program is accredited by the Association for Foodservice and Nutrition Professionals, 406 Surrey Woods Drive, St. Charles, IL 60174. Phone (800) 323-1908. Website: [www.afnponline.org](http://www.afnponline.org) (<https://www.afnponline.org>).

Upon successful completion of the program, graduates are eligible to take the national certification exam to become a Certified Dietary Manager, Certified Food Protection Professional.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Dietetic Technology (DT)

Semester 1		Lec	Lat	Credits
BIO 151	Anatomy and Physiology 1 ( G )	3	2	4
DT 110	Community Nutrition ( T )	2	2	3
CUL 115	Food Service Sanitation ( B )	1	0	1
DT 120	Nutrition for a Healthy Lifestyle ( B )	3	0	3
DT 190	Dietetic Professional Practices ( B )	1	0	1
FYE 1XX	First Year Experience Elective ( B )	1	0	1

**Semester 2**

BIO 152	Anatomy and Physiology 2 ( <b>B</b> )	3	2	4
DT 115	Cooking for a Healthy Lifestyle ( <b>T</b> )	1	3	2
DT 125	Nutrition Through the Lifecycle ( <b>T</b> )	3	0	3
DT 130	Nutrition Assessment ( <b>T</b> )	1	2	2
DT 180	Dietetic Directed Practice: Health Care 1 ( <b>T</b> )	0	5	1
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3

**Semester 3**

ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
MAT 1XX	Mathematics Elective ( <b>G</b> )	3	0	3
XXX XXX	Social/Behavioral Science Elective ( <b>G</b> )	3	0	3

**Semester 4**

DT 205	Quantity Food Production ( <b>T</b> )	0	6	3
DT 211	Food Service Management 1 ( <b>T</b> )	2	0	2
DT 221	Medical Nutrition Therapy 1 ( <b>T</b> )	2	2	3
DT 280	Dietetic Directed Practice: Food Service ( <b>T</b> )	0	6	1
DT 283	Dietetic Directed Practice: Health Care 2 ( <b>T</b> )	0	5	1
DT 285	Dietetic Directed Practice: Health Care 3 ( <b>T</b> )	0	5	1
HRM 110	Food and Beverage Cost Control ( <b>B</b> )	3	0	3

**Semester 5**

CHE 110	Fundamentals of Chemistry ( <b>B</b> )	3	3	4
DT 212	Food Service Management 2 ( <b>T</b> )	2	0	2
DT 222	Medical Nutrition Therapy 2 ( <b>T</b> )	2	2	3
DT 287	Dietetic Practicum: Food Service ( <b>T</b> )	1	7	2
DT 289	Dietetic Practicum: Clinical ( <b>T</b> )	1	7	2
DT 290	Dietetic Competencies ( <b>T</b> )	2	0	2

Total Credits:		49	59	66
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**Electives****First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

**Mathematics Elective**

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 131	Statistics 1	3
MAT 151	College Algebra	4

**Social/Behavioral Science Elective**

Any PSY, SOC	3
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- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Dietary Management Certificate (DMC)**

		Lec	Lat	Credits
<b>Semester 1</b>				
CUL 115	Food Service Sanitation	1	0	1
DT 110	Community Nutrition	2	2	3
DT 120	Nutrition for a Healthy Lifestyle	3	0	3
DT 190	Dietetic Professional Practices	1	0	1
<b>Semester 2</b>				
DT 115	Cooking for a Healthy Lifestyle	1	3	2
DT 125	Nutrition Through the Lifecycle	3	0	3
DT 130	Nutrition Assessment	1	2	2
DT 180	Dietetic Directed Practice: Health Care 1	0	5	1
<b>Semester 3</b>				
DT 211	Food Service Management 1	2	0	2
DT 215	Nutrition for Dietary Managers	2	0	2
DT 280	Dietetic Directed Practice: Food Service	0	6	1
DT 205	Quantity Food Production	0	6	3
<b>Semester 4</b>				
DT 225	Dietary Manager Exam Review	1	0	1
DT 287	Dietetic Practicum: Food Service	1	7	2
DT 212	Food Service Management 2	2	0	2
HRM 110	Food and Beverage Cost Control	3	0	3
Total Credits:		23	31	32

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

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## Dietetic Technology (DT)

- Access data, references, patient education materials, and consumer and other information from credible sources.
- Implement actions based on care plans, protocols, policies and evidence-based practice.
- Adhere to current federal regulations and state statutes and rules, as applicable and in accordance with accreditation standards and the Scope of Dietetics Practice, Standards of Professional Practice, and the Code of Ethics for the Profession of Dietetics.
- Use clear and effective oral and written communication.
- Prepare and deliver sound food and nutrition presentations to a target audience.
- Demonstrate active participation, teamwork, and contributions in group settings.
- Prepare a plan for professional development according to Commission on Dietetic Registration guidelines.
- Participate in advocacy on local, state, or national legislative and regulatory issues or policies impacting the nutrition and dietetics profession.
- Perform nutrition screening and identify clients or patients to be referred to a registered dietitian nutritionist.
- Perform specific activities of the Nutrition Care Process as assigned by registered dietitian nutritionists in accordance with the Scope of Nutrition and Dietetics Practice for individuals, groups, and populations in a variety of settings.
- Provide nutrition and lifestyle education to well populations.
- Develop nutrition education materials for disease prevention and health improvement that are culturally and age appropriate and designed for the educational level of the audience.
- Perform supervisory functions for purchasing, production, and service of food that meets nutrition guidelines, cost parameters, and health needs.
- Modify recipes and menus for acceptability and affordability that accommodate the cultural diversity and health status of various populations, groups, and individuals.
- Perform supervisory, education, and training functions.
- Implement and adhere to budgets.

## Faculty

### Program Chair/Advisor

Candice Jones, M.Ed., RD, LD, CDE  
candice.jones@cincinnatiastate.edu

### Advisor

Beth McIlvain, MS  
beth.mcilvain@cincinnatiastate.edu

## Courses

### DT 110 Community Nutrition

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A study of public health nutrition programs in the U.S. Topics include: food availability; laws, regulations, and policies; and the influence of socioeconomic, cultural, and psychological factors on food and nutrition behavior. Students participate in supervised practice. Prerequisites: ENG 085 and MAT 093, or appropriate placements, and instructor consent

Corequisites: DT 190

Instructor Consent Required

### DT 115 Cooking for a Healthy Lifestyle

**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on food preparation techniques and healthy food choices for individuals. Topics include: preparing and evaluating healthy foods, modifying recipes, food safety, alternative food choices, and special diet considerations.

Prerequisites: ENG 085 or appropriate placement

### DT 120 Nutrition for a Healthy Lifestyle

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to nutrition concepts and diets for healthy living. Topics include: health risks; socioeconomic, cultural, psychological, and environmental influences; health promotion; disease prevention; complementary, alternative, and herbal therapies; dietary supplements; and lifecycle nutrition.

Prerequisites: ENG 085 and MAT 093, or appropriate placements  
Ohio Transfer Assurance Guide Approved

### DT 125 Nutrition Through the Lifecycle

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on nutritional needs from preconception through maturity. Topics include: influence of age, growth, and normal development on nutritional requirements; diet planning principles for diverse age groups; and promoting healthy eating to reduce age-related nutrition problems.

Prerequisites: DT 120 (minimum grade C)

### DT 130 Nutrition Assessment

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on principles of assessment for normal nutrition. Topics include: the nutrition care process, anthropometrics, drug/nutrient interactions, collecting and interpreting lab values, computerized analysis, and interviewing and counseling skills.

Prerequisites: DT 120 (minimum grade C) and instructor consent

Corequisites: DT 180

Instructor Consent Required

### DT 135 Sports Nutrition

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the nutrition needs of active people and athletes. Topics include: nutrient requirements for optimal health, fitness, and sports; weight control; popular nutrition supplements; and ergogenic aids.

Prerequisites: DT 120 (minimum grade C)

**DT 180 Dietetic Directed Practice: Health Care 1****1 Credit. 0 Lecture Hour. 5 Lab Hours.**

Students participate in supervised practice in health care and acute care settings. Topics include: nutrition care process, assessment techniques, lifecycle nutrition, interviewing skills, screening, monitoring food and nutrient intake, and menu modification.

Prerequisites: DT 120 (minimum grade C) and instructor consent

Corequisites: DT 130

Instructor Consent Required

**DT 190 Dietetic Professional Practices****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that prepares Dietetic Technology students for clinical and management practices and practicums. Topics include: dietetic professional practice requirements, review of student handbook, dietetic licensure, HIPAA, and blood-borne pathogen and safety training.

Prerequisites: ENG 080 and MAT 093, or appropriate placements, and instructor consent

Corequisites: DT 110

Instructor Consent Required

**DT 205 Quantity Food Production****3 Credits. 1 Lecture Hour. 4 Lab Hours.**

A course on quantity food production practices. Topics include: identification, care, and use of institutional food service equipment; standardized recipes; quality assurance; work efficiency; costing; and food evaluation.

Prerequisites: HRM 105

**DT 211 Food Service Management 1****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts of food service management. Topics include: meal service and delivery systems, evaluating meal production, performance standards, scheduling, and staffing.

Prerequisites: DT 120 (minimum grade C) and instructor consent

Corequisites: DT 280

Instructor Consent Required

**DT 212 Food Service Management 2****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DT 211. Topics include: management responsibilities, interviewing and recruiting, performance review, productivity, work simplification, budgeting, and professional ethics.

Prerequisites: DT 211 (minimum grade C) and instructor consent

Corequisites: DT 287

Instructor Consent Required

**DT 215 Nutrition for Dietary Managers****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on nutrition concepts related to the Dietary Manager's scope of practice. Topics include: medical nutrition therapy, documentation, care planning, nutrition education, and healthcare regulations.

Prerequisites: DT 125 (minimum grade C) and instructor consent

Instructor Consent Required

**DT 221 Medical Nutrition Therapy 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on nutrition care processes and diet modification for various disease states. Topics include: weight management, upper and lower gastrointestinal tract, diabetes, parenteral and enteral nutrition, swallowing, and feeding disorders.

Prerequisites: DT 130 (minimum grade C) and instructor consent

Corequisites: DT 285

Instructor Consent Required

**DT 222 Medical Nutrition Therapy 2****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of DT 221. Topics include: nutrition in severe stress; renal disease; liver disease; cancer; HIV and AIDS; heart, lung, and blood vessel diseases; and pressure ulcers and burns.

Prerequisites: DT 221 (minimum grade C) and instructor consent

Corequisites: DT 289

Instructor Consent Required

**DT 225 Dietary Manager Exam Review****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that prepares students to take the Dietary Manager credentialing examination.

Prerequisites: Complete all required DT courses (minimum grade C for all), and instructor consent

Instructor Consent Required

**DT 280 Dietetic Directed Practice: Food Service****1 Credit. 0 Lecture Hour. 6 Lab Hours.**

Students participate in supervised practice in a health care food service setting. Topics include: food service management, human resources, sanitation, procurement, distribution and food cost, menu cost, recipe development, and equipment specifications.

Prerequisites: DT 110 and DT 222 and instructor consent

Corequisites: DT 211

Instructor Consent Required

**DT 283 Dietetic Directed Practice: Health Care 2****1 Credit. 0 Lecture Hour. 5 Lab Hours.**

Students participate in supervised practice in a health care setting. Topics include: applying the nutrition care process, care plans, enteral and parenteral nutrition, transitional feeding, severe stress, and disorders of lower and upper gastrointestinal tract.

Prerequisites: DT 180 (minimum grade C) and instructor consent

Corequisites: DT 221

Instructor Consent Required

**DT 285 Dietetic Directed Practice: Health Care 3****1 Credit. 0 Lecture Hour. 5 Lab Hours.**

Students participate in supervised practice in a health care setting while building on previous directed practice experience. Topics include: quality improvement, health care regulations, and pediatric nutrition assessment.

Prerequisites: DT 180 and instructor consent

Corequisites: DT 221

Instructor Consent Required

**DT 287 Dietetic Practicum: Food Service****2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students participate in unpaid work experience in a food service management setting and complete an individualized final project agreed upon by the student and instructor.

Prerequisites: DT 280 (minimum grade C) and instructor consent  
Corequisites: DT 212

Instructor Consent Required

**DT 289 Dietetic Practicum: Clinical****2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students participate in unpaid work experience in a health care setting, complete individual curriculum goals, and review Academy of Nutrition and Dietetics competencies.

Prerequisites: DT 283 and DT 285 and instructor consent  
Corequisites: DT 222: Medical Nutrition Therapy 2

Instructor Consent Required

**DT 290 Dietetic Competencies****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that prepares students for the Dietetic Technician Registration Exam and entry into the dietetic profession. Topics include: exam review, clinical and food service review, and professional portfolio development. Students must pass a final competency exam to pass this course.

Prerequisites: Complete all required DT courses (minimum grade C for all), and instructor consent

Instructor Consent Required

## Hospitality Management (HOSP)

### Hospitality Management (HOSP)

Students in the Hospitality Management program gain knowledge and skills related to the management of various hospitality venues, through classroom instruction, laboratory experience, and cooperative education.

Students select one of two tracks within the degree: Food and Beverage, or Operations.

- Students in the Food and Beverage track also earn the Culinary certificate as part of the degree, and are qualified to work as managers of food service operations in a kitchen setting.
- Students in the Operations track learn basics of lodging and restaurant operation, along with event management skills and hospitality management training. Students can complete the Operations track through online learning, which provides flexibility in completing degree requirements.

Graduates earn an Associate of Applied Business degree and are prepared for supervisory positions in a variety of hospitality venues.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

## Hospitality Management (HOSP)

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
FYE 1XX		1	0	1
First Year Experience Elective (B)				
ENG 101	English Composition 1 ( G)	3	0	3
IM 1XX		2	3	3
Computer Elective (B)				
HRM 100	Hospitality Careers ( T)	1	0	1
CUL 115	Food Service Sanitation ( T)	1	0	1
MGT 101	Principles of Management ( B)	3	0	3
MAT XXX		3	0	3
Mathematics Elective (G)				
<b>Semester 2</b>				
BUS 190	Professional Practices ( T)	1	0	1
ENG 10X		3	0	3
English Composition Elective (G)				
HRM 110	Food and Beverage Cost Control ( B)	3	0	3
XXX XXX		3	0	3
Track Elective 1 (T)				
XXX XXX		3	0	3
Track Elective 2 (T)				
<b>Semester 3</b>				
ACC 101	Financial Accounting ( B)	2	2	3
COMM 1XX		3	0	3
Communication Elective (T)				
MKT 1XX		3	0	3
Marketing Elective (B)				
XXX XXX		3	0	3
Track Elective 3 (T)				
XXX XXX		3	0	3
Track Elective 4 (T)				
<b>Semester 4</b>				
HRM X9X		1	40	2
Cooperative Education Elective: Hospitality Management (T)				
<b>Semester 5</b>				
LAW 101	Business Law ( B)	3	0	3
HRM 135	Event, Meeting, and Convention Management ( T)	4	0	4

XXX XXX Arts/ Humanities Elective (G)	3	0	3
XXX XXX Social Science/ Natural Science Elective (G)	3	0	3
<b>Semester 6</b>			
XXX XXX Cooperative Education Elective (T)	1	40	2
Total Credits:	56	85	60

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Computer Elective

IM 111	Computer Applications	3
IM 120	Electronic Spreadsheets: Microsoft Excel	3
IM 200	Information Systems for Managers	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3
MAT 131	Statistics 1	3
MAT 132	Statistics 2	3
MAT 151	College Algebra	4
MAT 215	Business Calculus	6
MAT 251	Calculus 1	5
MAT 252	Calculus 2	5

### Communication Elective

COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3

### Marketing Elective

MKT 101	Principles of Marketing	3
MKT 105	Marketing and Customer Relations	3

### Food and Beverage Track Electives (must take all three)

CUL 100	Culinary Demonstration	2
CUL 101	Culinary 1	3
CUL 102	Culinary 2	3

### Operations Track Electives (must take both)

HRM 115	Rooms Division Management	4
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HRM 130	Food and Beverage Division Management	4
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### Additional Track Electives (select 1 or 2, depending on track)

ACC 102	Managerial Accounting	3
CUL 110	Culinary Nutrition	3
DT 120	Nutrition for a Healthy Lifestyle	3
MGT 220	Leadership	3

### Arts/Humanities Elective

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130		3
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### Social Science/Natural Science Elective

Any Transfer Module course from ECO, GEO, HST, LBR, POL, PSY, SOC, or BIO. CHE, EVS, PHY, PSC, or LH 110, LH 120, LH 130		3
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### Cooperative Education Electives (4 credit hours required)

HRM 191	Part-Time Cooperative Education 1: Hospitality Management	1
HRM 192	Part-Time Cooperative Education 2: Hospitality Management	1
HRM 193	Part-Time Cooperative Education 3: Hospitality Management	1
HRM 194	Part-Time Cooperative Education 4: Hospitality Management	1
HRM 291	Full-Time Cooperative Education 1: Hospitality Management	2
HRM 292	Full-Time Cooperative Education 2: Hospitality Management	2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Hospitality Management (HOSP)

- Demonstrate a working knowledge and application of hospitality terminology, concepts, and ethics.
- Understand the functions of customer service within the organization and external environments and how customer service contributes to organizational attainment of goals and objectives.
- Recognize the management functions of planning, leading, organizing, and controlling.
- Demonstrate skills in creative and critical thinking, written and oral communication, and ethical reasoning that will enable students to interact with employers, suppliers, and customers.
- Demonstrate the ability to comply with current laws, rules, and regulations governing food service, lodging, and tourism.

- Assess and develop individual communication, leadership, and team building skills while recognizing and adapting to the communication, leadership, and team building styles of others.
- Understand how to effectively manage the resources of hospitality operations, including human resources and financial controls.

## Faculty

### Program Chair/Advisor

Paula Kirch Smith, M.Ed., CTA, CHE  
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### Co-op Coordinator

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### Advisor

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## HRM Courses

### HRM 100 Hospitality Careers

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

An introduction to the hospitality industry including history, structure, trends, and career opportunities. This course is offered through online instruction only.

Prerequisites: ENG 085 or appropriate placement

### HRM 110 Food and Beverage Cost Control

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on food service cost control systems. Topics include: food, beverage, and labor cost control; sales control; and profit and loss analysis.

Prerequisites: MAT 093 or appropriate placement

### HRM 115 Rooms Division Management

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on rooms division management and operations. Topics include: operating procedures for performing the hotel audit, registration and reservations, hotel rates, posting charges and credits, housekeeping and sanitation, and security.

Prerequisites: None

### HRM 130 Food and Beverage Division Management

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for food and beverage management and operations. Topics include: leadership and supervision, operating procedures, and internal and external marketing of food and beverage services.

Prerequisites: ENG 101

### HRM 135 Event, Meeting, and Convention Management

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for effective management of special events. Topics include: event planning, sales processes within catering operations, and negotiating sales and catering contracts.

Prerequisites: HRM 115

### HRM 191 Part-Time Cooperative Education 1: Hospitality Management

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent

Instructor Consent Required

### HRM 192 Part-Time Cooperative Education 2: Hospitality Management

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 191

### HRM 193 Part-Time Cooperative Education 3: Hospitality Management

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 192

### HRM 194 Part-Time Cooperative Education 4: Hospitality Management

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 193

### HRM 195 Part-Time Cooperative Education 5: Hospitality Management

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 194

### HRM 196 Part-Time Cooperative Education 6: Hospitality Management

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 195



**HRM 291 Full-Time Cooperative Education 1: Hospitality Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent

**HRM 292 Full-Time Cooperative Education 2: Hospitality Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 291

**HRM 293 Full-Time Cooperative Education 3: Hospitality Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 292

**MGT Courses****MGT 101 Principles of Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the history and fundamental concepts of modern management. Topics include: planning, leading, organizing and controlling; global and domestic environments for management; change management; quality management; team management; and communication skills for managers.

Prerequisites: ENG 080 or appropriate placement

Ohio Transfer Assurance Guide Approved

**MGT 105 Human Resource Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of the human resource department and the supervisor's role in various human resource functions. Topics include: recruiting, choosing, and training employees; compensation and benefits; performance evaluation; disciplinary actions; and workplace rights and responsibilities.

Prerequisites: None

**MGT 120 Entrepreneurship****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on starting and growing new businesses. Topics include: identifying new venture opportunities, evaluating the viability of a new venture, and understanding skills needed for successful business operations. Students prepare a business plan for potential investor review.

Prerequisites: ACC 101

**MGT 125 Business Ethics****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of business ethics and moral reasoning. Topics include: corporate disclosure, discrimination, whistle blowing, computer crime, and international ethics.

Prerequisites: None

**MGT 130 Project Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to project management in various industries. Topics include: planning and prioritizing projects, obtaining project approvals, working with diverse teams, managing all elements of projects, evaluating project results, and using Microsoft Project software.

Prerequisites: None

**MGT 131 Project Management Professional Certification Review****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of project management in various industries. Topics include: planning and prioritizing projects, obtaining project approvals, working with diverse teams, managing all elements of projects, evaluating project results, and using Microsoft Project software. This course satisfies the education requirement to sit for the PMP (Project Management Professional) exam.

Prerequisites: None

**MGT 140 Quality Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques of quality management and continuous improvement for manufacturing and service organizations. Topics include: establishing a customer driven organization, and using effective feedback and control systems.

Prerequisites: MGT 100 or MGT 101

**MGT 191 Part-Time Cooperative Education 1: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**MGT 192 Part-Time Cooperative Education 2: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 191

**MGT 193 Part-Time Cooperative Education 3: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 192

**MGT 194 Part-Time Cooperative Education 4: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 193

**MGT 195 Part-Time Cooperative Education 5: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 194

**MGT 196 Part-Time Cooperative Education 6: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 195

**MGT 220 Leadership****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of successful integrative leaders in organizations. Topics include: historical and contemporary approaches to leadership, leadership for change, team leadership, servant leadership, and communication skills for leaders.

Prerequisites: MGT 100 or MGT 101

**MGT 290 Business Management Capstone****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course that examines the entire scope of management, including functional and decision making areas such as production, marketing, finance, and accounting.

Prerequisites: MGT 101 and MKT 101 and ACC 101

**MGT 291 Full-Time Cooperative Education 1: Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**MGT 292 Full-Time Cooperative Education 2: Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 291

**MGT 293 Full-Time Cooperative Education 3: Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 292

## Pastry Arts (PAS & PASC)

### Pastry Arts (PAS)

The Pastry Arts program at Cincinnati State prepares students for employment in the culinary industry as pastry chefs or as bakers in the field of baking and confectionery.

The courses include technical aspects of baking and pastry commonly used in the industry, such as preparing yeast dough; producing cakes, cookies, and cold desserts; and constructing pastry centerpieces.

Graduates earn an Associate of Applied Business degree.

The Pastry Arts program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). Website: <http://www.acfchefs.org> (<https://www.acfchefs.org>).

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Pastry Arts Certificate (PASC)

The Pastry Arts certificate program provides an introduction to baking and pastry production. The one-year program includes instruction in various methods of pastry production used in the food service industry as well as techniques of cake decorating.

Courses completed for the certificate also apply to the Pastry Arts associate's degree program.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Pastry Arts (PAS)

Semester 1		Lec	Lat	Credits
DT 120	Nutrition for a Healthy Lifestyle ( T )	3	0	3
HRM 100	Hospitality Careers ( B )	1	0	1
PAS 100	Theory of Baking ( T )	3	0	3
PAS 110	Celebration Cakes ( T )	0	6	3
PAS 105	Fundamentals of Baking ( T )	0	6	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
CUL 115	Food Service Sanitation ( B )	1	0	1
Semester 2				
BUS 190	Professional Practices ( B )	1	0	1
ENG 101	English Composition 1 ( G )	3	0	3
IM 111	Computer Applications ( B )	2	3	3
PAS 115	Pastry Production and Design ( T )	0	6	3
PAS 120	Nutritional Baking and Cuisine ( T )	1	4	3
XXX 1XX	Arts/ Humanities Elective ( G )	3	0	3
Semester 3				

PAS X9X		1	40	2
Cooperative Education Elective 1: Pastry Arts (T)				

**Semester 4**

ECO 105	Principles of Microeconomics ( G )	3	0	3
PAS 210	Advanced Pastry and Buffet Design ( T )	0	6	3

ENG 10X		3	0	3
English Composition Elective (G)				

MAT 1XX		3	0	3
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Mathematics Elective (G)				
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PAS 2XX		0	6	3
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Pastry Elective (T)				
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**Semester 5**

ACC 101	Financial Accounting ( B )	2	2	3
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HRM 110	Food and Beverage Cost Control ( T )	3	0	3
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MGT 101	Principles of Management ( B )	3	0	3
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MKT 101	Principles of Marketing ( B )	3	0	3
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PAS 290	Pastry Capstone ( T )	1	5	3
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**Semester 6**

PAS X9X		1	40	2
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Cooperative Education Elective 2: Pastry Arts (T)				
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Total Credits:		42	124	65
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**Electives****First Year Experience Elective**

FYE 100	College Survival Skills	1		
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FYE 105	College Success Strategies	2		
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FYE 110	Community College Experience	3		
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**Arts/Humanities Elective**

ART 110	Introduction to Art	3		
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ART 111	Art History: Ancient to Medieval Periods	3		
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ART 112	Art History: Renaissance to the Present	3		
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FRN 101	Elementary French 1	4		
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**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3		
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ENG 103	English Composition 2: Writing about Literature	3		
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ENG 104	English Composition 2: Technical Communication	3		
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ENG 105	English Composition 2: Business Communication	3		
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**Mathematics Elective**

MAT 105	Quantitative Reasoning	3		
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MAT 111	Business Mathematics	3		
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**Pastry Elective**

PAS 215	Novelty and Theme Cake Production	3		
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PAS 220	Advanced Wedding Cake Production	3		
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PAS 225	Artisan Bread Baking	3		
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PAS 230	Chocolate and Confectionery Production	3		
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**Cooperative Education Electives (4 credit hours required)**

PAS 191	Part-Time Cooperative Education 1: Pastry Arts	1		
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PAS 192	Part-Time Cooperative Education 2: Pastry Arts	1		
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PAS 193	Part-Time Cooperative Education 3: Pastry Arts	1		
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PAS 194	Part-Time Cooperative Education 4: Pastry Arts	1		
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PAS 291	Full-Time Cooperative Education 1: Pastry Arts	2		
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PAS 292	Full-Time Cooperative Education 2: Pastry Arts	2		
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Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Pastry Arts Certificate (PASC)****Semester 1**

PAS 100	Theory of Baking	3	0	3
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PAS 105	Fundamentals of Baking	0	6	3
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PAS 110	Celebration Cakes	0	6	3
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**Semester 2**

CUL 115	Food Service Sanitation	1	0	1
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PAS 115	Pastry Production and Design	0	6	3
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PAS XXX		0	6	3
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Pastry Elective				
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Total Credits:		4	24	16
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**Pastry Elective**

PAS 215	Novelty and Theme Cake Production	3		
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PAS 220	Advanced Wedding Cake Production	3		
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PAS 225	Artisan Bread Baking	3		
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PAS 230	Chocolate and Confectionery Production	3		
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Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.

- The alternative version, when available, meets the requirements of the course version without the added letter.

## Pastry Arts (PAS)

- Apply the basic principles of sanitation and safety in food service operations.
- Use and care for equipment normally found in the bakeshop or baking area.
- Demonstrate concepts of purchasing and receiving practices in quality food service operations.
- Apply the principles of nutrient needs throughout the life cycle to menu planning and food preparation.
- Develop skills in human relations and human resources..
- Apply the fundamentals of baking science to the preparation of a variety of products.
- Demonstrate skills in advanced decorating techniques and complex preparations of pastry, confections, and dessert products.
- Demonstrate knowledge of production and plating methods for a variety of baked goods, desserts, and confectioneries.

## Faculty

### Program Chair

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### Co-Op Coordinator

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### Advisor

Beth McIlvain, MS  
beth.mcilvain@cincinnati.state.edu

## Courses

### PAS 100 Theory of Baking

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the science and technical components of baking. Topics include: function of ingredients, such as fats, sugar, liquids, and leavening agents; and flour technology. The course is delivered through online instruction only.

Prerequisites: Admitted to PAS program, and ENG 085 and MAT 093, or appropriate placements

Corequisites: PAS 105 and PAS 110

Instructor Consent Required

### PAS 105 Fundamentals of Baking

**3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on baking principles. Topics include: ingredient functions; weighing and measuring procedures; using leavening agents; and producing yeast dough, quick breads, puff pastries, pies, and tarts.

Prerequisites: Admitted to PAS program, and ENG 085 and MAT 093 or appropriate placements

Corequisites: PAS 100 and PAS 110

Instructor Consent Required

### PAS 110 Celebration Cakes

**3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on design and production of cakes for celebrations such as weddings, birthdays, anniversaries, and other special occasions.

Prerequisites: Admitted to PAS program, and ENG 085 and MAT 093, or appropriate placements

Corequisites: PAS 100 : Theory of Baking, PAS 105 : Fundamentals of Baking

Instructor Consent Required

### PAS 115 Pastry Production and Design

**3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on production and decorating of cakes, cookies, petits four, and fruit-based desserts. Topics include: make-up methods, finishing techniques, using pastry decoration mediums, and creating a sugar centerpiece.

Prerequisites: PAS 100 and PAS 105 and PAS 110 (minimum grade C for all)

Instructor Consent Required

### PAS 120 Nutritional Baking and Cuisine

**3 Credits. 1 Lecture Hour. 4 Lab Hours.**

A course on producing nutritional baked goods. Topics include: nutritional significance of ingredients; replacements for fat, sodium, and sugar; and techniques for recipe modification.

Prerequisites: DT 120 and PAS 100 and PAS 105 (minimum grade C for all)

Instructor Consent Required

### PAS 191 Part-Time Cooperative Education 1: Pastry Arts

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent

### PAS 192 Part-Time Cooperative Education 2: Pastry Arts

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester.

Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PAS 191

### PAS 193 Part-Time Cooperative Education 3: Pastry Arts

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester.

Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PAS 192

**PAS 194 Part-Time Cooperative Education 4: Pastry Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: PAS 193

**PAS 195 Part-Time Cooperative Education 5: Pastry Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: PAS 194

**PAS 196 Part-Time Cooperative Education 6: Pastry Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: PAS 195

**PAS 210 Advanced Pastry and Buffet Design****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on production of a pastry buffet. Topics include: decoration techniques, creating dessert platters, and producing sugar centerpieces.  
Prerequisites: PAS 115 (minimum grade C)  
Instructor Consent Required

**PAS 215 Novelty and Theme Cake Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on production of novelty and theme cakes. Topics include: cake sculpturing techniques, fondant figure-making, figure piping, and creative construction styles.  
Prerequisites: PAS 110 (minimum grade C)  
Instructor Consent Required

**PAS 220 Advanced Wedding Cake Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on the design and construction of wedding cakes. Topics include: layering and covering tiered cakes, using techniques for fine piping design and royal icing, and creating gum paste flowers and other decorations.  
Prerequisites: PAS 110 (minimum grade C)  
Instructor Consent Required

**PAS 225 Artisan Bread Baking****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on the production of fine artisan breads. Topics include: techniques for basic sponge and sour dough, lamination of dough, and production of European-style specialty bread products.  
Prerequisites: PAS 105 (minimum grade C)  
Instructor Consent Required

**PAS 230 Chocolate and Confectionery Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on chocolate use, focusing on proper tempering and construction of a chocolate centerpiece. Topics include: candy making and coating.  
Prerequisites: PAS 105 (minimum grade C)  
Instructor Consent Required

**PAS 290 Pastry Capstone****3 Credits. 1 Lecture Hour. 5 Lab Hours.**

Students apply previous training in baking and pastry arts to advanced study of bakery production, emphasizing dessert production for restaurants.  
Prerequisites: PAS 210 (minimum grade C)  
Instructor Consent Required

**PAS 291 Full-Time Cooperative Education 1: Pastry Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: HRM 100 and PAS 105 (minimum grade C for both) and co-op coordinator consent

**PAS 292 Full-Time Cooperative Education 2: Pastry Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: PAS 291

**PAS 293 Full-Time Cooperative Education 3: Pastry Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: PAS 292

## Pre-Nutrition Science (PNS)

### Pre-Nutrition Science (PNS)

The Pre-Nutrition Science program prepares students for transfer to a bachelor's degree program in nutrition science, dietetics with emphasis on business or exercise, or other dietetics-related programs. Students who complete the Pre-Nutrition Science program earn an Associate of Science degree and are well prepared to enter a four-year degree program at various institutions in the region.

The Pre-Nutrition Science program includes 105 hours of directed practice. Students are also required to complete an additional 31 hours of professional meetings, food shows, and wellness and program support activities.

Course requirements and application of transfer credits to bachelor's degree programs vary, so students should work closely with their Cincinnati State academic advisor as well as the advisor at the institution where they intend to complete a bachelor's degree.

Students who complete a bachelor's degree program are required to complete an internship before they can take the credentialing exam given by the Commission on Dietetic Registration.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Pre-Nutrition Science (PNS)

Semester 1		Lec	LatCredits	
BIO 151	Anatomy and Physiology 1	3	2	4
DT 110	Community Nutrition	2	2	3
DT 120	Nutrition for a Healthy Lifestyle	3	0	3
DT 190	Dietetic Professional Practices	1	0	1
ENG 101	English Composition 1	3	0	3
FYE 1XX	First Year Experience Elective	1	0	1
Semester 2				
BIO 152	Anatomy and Physiology 2	3	2	4
DT 115	Cooking for a Healthy Lifestyle	1	3	2
DT 125	Nutrition Through the Lifecycle	3	0	3
DT 130	Nutrition Assessment	1	2	2
DT 180	Dietetic Directed Practice: Health Care 1	0	5	1
CUL 115	Food Service Sanitation	1	0	1
Semester 3				
PSY 110	Introduction to Psychology	3	0	3
ENG 10X	English Composition Elective	3	0	3
XXX XXX	Arts/Humanities Elective 1	3	0	3
XXX XXX	Mathematics Elective	2	2	3
Semester 4				
CHE 110	Fundamentals of Chemistry	3	3	4
COMM 110	Public Speaking	3	0	3
DT 135	Sports Nutrition	3	0	3
DT 205	Quantity Food Production	0	6	3
Semester 5				
XXX XXX	Arts/Humanities Elective 2	3	0	3
XXX XXX	Natural Science Elective	2	3	3

XXX XXX	Social/Behavioral Science Elective	3	0	3
Total Credits:		50	30	62

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 105	English Composition 2: Business Communication	3

### Arts/Humanities Electives

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130	3
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### Social/Behavioral Science Elective

Any Transfer Module course from ECO, GEO, HST, LBR, POL, PSY, SOC	3
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### Mathematics Elective

MAT 151	College Algebra	4
MAT 131	Statistics 1	3

### Natural Science Elective

BIO 220	Microbiology	3
CHE 111	Bio-Organic Chemistry	4

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Pre-Nutrition Science (PNS)

- Access data, references, patient education materials, and consumer and other information from credible sources.
- Adhere to current federal regulations and state statutes and rules, as applicable and in accordance with accreditation standards and the Scope of Dietetics Practice, Standards of Professional Practice, and the Code of Ethics for the Profession of Dietetics.
- Use clear and effective oral and written communication.
- Prepare and deliver sound food and nutrition presentations to a target audience.
- Demonstrate active participation, teamwork, and contributions in group settings.
- Participate in professional and community organizations.
- Participate in advocacy on local, state, or national legislative and regulatory issues or policies impacting the nutrition and dietetics profession.
- Perform specific activities of the Nutrition Care Process as assigned by registered dietitian nutritionists in accordance with the

Scope of Nutrition and Dietetics Practice for individuals, groups, and populations in a variety of settings.

- Provide nutrition and lifestyle education to well populations.
- Develop nutrition education materials for disease prevention and health improvement that are culturally and age appropriate and designed for the educational level of the audience.

## Faculty

### Program Chair/Advisor

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### Advisor

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## Information Management Technologies

Information Management Technologies programs prepare students for employment in a variety of general and specialized office settings.

The Administrative Assistant (p. 63) associate's degree program includes technical skill development, understanding of business and management principles, and cooperative education work experience. Students choose one of three tracks:

- Administrative Assistant
- Legal Administrative Assistant
- Medical Administrative Assistant

Minimum grades of C are required for all technical courses.

Information Management Technologies also offers a certificate program:

- The Computer Applications Certificate (p. 67) assists professionals who are seeking career development opportunities while earning college credit, as well as students in any program or major who want to increase employment options by adding to their computer skills.

For more information, please contact the Business Technologies Division at (513) 569-1620.

## Administrative Assistant (AA)

### Administrative Assistant (AA)

The Administrative Assistant program prepares students for work as an administrative office professional in one of three career areas: Administrative Assistant, Legal Administrative Assistant, or Medical Administrative Assistant.

- The Administrative Assistant track focuses on office skills and project management.
- The Legal Administrative Assistant track focuses on legal procedures, court filings, and legal transcription.

- The Medical Administrative Assistant track focuses on medical office procedures, insurance filing, and medical coding and billing for medical offices and health care facilities.

Students earn an Associate of Applied Business degree and gain strong foundational skills in administrative office procedures and practices.

Students also develop competencies using technologies like Microsoft Office Suite software, and acquire knowledge and skills in communication, organizational practices, supervision, time management, and project management.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

## Administrative Assistant (AA)

Semester 1		Lec	Lat	Credits
ENG 101	English Composition 1 ( G )	3	0	3
IM 115	Administrative Office Procedures and Practices ( B )	2	3	3
IM 130	Electronic Word Processing: Microsoft Word ( B )	2	3	3
IM 150	Electronic Presentations: Microsoft PowerPoint ( T )	2	3	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
Semester 2				
BUS 190	Professional Practices ( B )	1	0	1
IM 120	Electronic Spreadsheets: Microsoft Excel ( T )	2	3	3
IM 135	Business Document Formatting ( T )	2	3	3
ENG 10X	English Composition Elective ( G )	3	0	3
XXX XXX	Track Elective 1 ( T )	2	0	2
MAT 1XX	Mathematics Elective ( G )	3	0	3
Semester 3				
ACC 101	Financial Accounting ( B )	2	2	3
IM X9X	Cooperative Education Elective 1: Information Management ( T )	1	40	2
Semester 4				

IM 145	Document Proofreading and Editing ( T )	2	3	3
IM 155	Emerging Technologies and Social Media ( T )	2	2	3
LAW 101	Business Law ( B )	3	0	3
ACC 1XX	Accounting Software Elective ( T )	0	2	1
MGT 10X	Management Elective ( B )	3	0	3
<b>Semester 5</b>				
COMM 105	Interpersonal Communication ( G )	3	0	3
IM X9X	Cooperative Education Elective 2: Information Management ( T )	1	40	2
<b>Semester 6</b>				
XXX XXX	Capstone Elective ( T )	3	0	3
XXX XXX	Track Elective 2 ( T )	2	0	2
XXX XXX	Track Elective 3 ( T )	2	0	2
XXX XXX	Social/Behavioral Science or Natural Science Elective ( G )	3	0	3
Total Credits:		50	104	61

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3
MAT 131	Statistics 1	3

MAT 151	College Algebra	4
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### Accounting Software Elective

ACC 115	Accounting Software Applications: Sage (Peachtree)	2
ACC 121	Computerized Bookkeeping: QuickBooks 1	1

### Management Elective

MGT 101	Principles of Management	3
MGT 105	Human Resource Management	3

### Natural Science Elective (take one course from either Natural Science or Social/Behavioral Science)

Any Transfer Module course from BIO, CHE, EVS, PHY, PSC		
Social/Behavioral Science Elective (take one course from either Social/Behavioral Science or Natural Science)		3

Any Transfer Module course from ECO, GEO, HST, LBR, POL, PSY, SOC

### Capstone Elective

IM 260	Medical Administrative Procedures	3
IM 290	Administrative Assistant Capstone	3

### Administrative Assistant Track Electives

IM 111	Computer Applications	3
IM 160	Electronic Publications: Microsoft Publisher	3
IM 170	Electronic Project Management: Microsoft Project	3

### Legal Administrative Assistant Track Electives

IM 165	Legal Office Environment	3
IM 225	Legal Transcription and Formatting	3
LAW 150	Bankruptcy, Debt Collection and Secured Transactions	3

### Medical Administrative Assistant Track Electives

MCH 101	Medical Terminology 1	2
MCH 102	Medical Terminology 2	2
MA 120	Medical Office Insurance Coding and Billing	2

### Cooperative Education Electives (4 credit hours required)

IM 191	Part-Time Cooperative Education 1: Information Management	1
IM 192	Part-Time Cooperative Education 2: Information Management	1
IM 193	Part-Time Cooperative Education 3: Information Management	1
IM 194	Part-Time Cooperative Education 4: Information Management	1
IM 291	Full-Time Cooperative Education 1: Information Management	2
IM 292	Full-Time Cooperative Education 2: Information Management	2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio



Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Administrative Assistant (AA)

- Handle standard administrative office procedures and practices, such as dealing with customers, preparing presentations, ordering supplies, ordering repairs to equipment, publishing newsletters, organizing company events, supervising other clerical employees, managing multiple-line telephones, managing files, distributing mail, coordinating travel, scheduling meetings, and updating calendars.
- Demonstrate the ability to competently use up-to-date Microsoft Office application software programs (word processing, spreadsheet, graphic presentation, and database management) along with up-to-date personal computer operating system software (Windows) to produce files and documents.
- Identify, evaluate, and apply principles of office management and demonstrate competence in performing professional tasks such as administrative clerical duties; and managing office processes, projects, records, and data electronically and manually.
- Describe and apply principles of effective oral, written, and electronic communication skills for interpersonal, group, and office communication while applying critical thinking, problem solving, and human relations skills.
- Integrate information to monitor and apply principles of office management for the supervision of multi-phase business projects combined with organizational/technical skills to improve office workflow using office technology tools such as videoconferencing equipment, photocopiers, printers, scanners, and fax machines.
- Demonstrate professional/ethical behaviors and attitudes when disseminating legal, medical, or personal information.
- Communicate using digital technology, social media, videoconferencing, and voice recognition programs.
- Demonstrate proficiency in legal office procedures, court filing procedures, legal transcription, and law office protocol, for legal administrative assistants.
- Demonstrate proficiency in medical office procedures, insurance filing, medical coding, scheduling, and billing, for medical administrative assistants.

## Faculty

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## Courses

### IM 100 Computer Literacy

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamental concepts and skills for using computers.

Prerequisites: None

### IM 105 Keyboarding Skills

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamental techniques for building keyboarding speed and formatting documents. Students must achieve a minimum speed of 15 words per minute to pass the course.

Prerequisites: None

### IM 106 Introductory Electronic Word Processing: Microsoft Word

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental practical applications of Microsoft Word software. Topics include: creating and formatting documents, tables, and reports.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

### IM 107 Introductory Electronic Presentations: Microsoft PowerPoint

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamentals of developing effective slide presentations using Microsoft Office PowerPoint software. Topics include: creating and editing presentations with pictures, and adding media and animation.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

### IM 108 Introductory Electronic Spreadsheets: Microsoft Excel

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental techniques for using Microsoft Office Excel software. Topics include: constructing worksheets, writing formulas, using functions, and creating graphs.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

### IM 109 Introductory Database Management: Microsoft Access

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental practical applications of Microsoft Office Access software. Topics include: developing tables, queries, and reports; working in datasheet and design view; and maintaining database files.

Prerequisites: ENG 085 or appropriate placement

### IM 111 Computer Applications

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental skills for using workplace software applications. Topics include: Microsoft Office applications for word processing (MS Word), spreadsheets (MS Excel), database management (MS Access), and presentations (MS PowerPoint); the MS Windows operating system; using the internet; and file storage.

Prerequisites: ENG 080 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed or higher

**IM 115 Administrative Office Procedures and Practices****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts and skills required to perform office administration duties and activities.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

Corequisites: IM 130

**IM 120 Electronic Spreadsheets: Microsoft Excel****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for using Microsoft Office Excel spreadsheet software. Topics include: constructing worksheets, writing formulas, constructing macros, and using spreadsheets with databases.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

**IM 130 Electronic Word Processing: Microsoft Word****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for word processing using Microsoft Office Word software. Topics include: developing letters and reports, using mail merge, and designing forms.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 135 Business Document Formatting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on composing, editing, and formatting professional business documents using appropriate business communication methods.

Prerequisites: IM 130 (minimum grade C) and 40 wpm minimum keyboarding speed

**IM 140 Electronic Database Management: Microsoft Access****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts and skills for using Microsoft Office Access database management software. Topics include: designing, customizing, and maintaining database files; and integrating database files with other software applications.

Prerequisites: IM 111 or IM 130 (minimum grade C for both)

**IM 145 Document Proofreading and Editing****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using editing and proofreading skills to produce documents that are correct, complete, concise, coherent, clear, and courteous.

Prerequisites: ENG 101, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 150 Electronic Presentations: Microsoft PowerPoint****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on skills for developing effective slide presentations using Microsoft Office PowerPoint software.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 155 Emerging Technologies and Social Media****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on using web tools and social media in the workplace. Topics include: Microsoft Office OneNote, speech recognition, digital cameras, scanners, tablets, web communication including blogs and podcasts, and establishing brand identity through social media.

Prerequisites: IM 111 or IM 130 (minimum grade C for both)

**IM 160 Electronic Publications: Microsoft Publisher****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills for preparing professional documents that combine text and images using Microsoft Publisher software.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 165 Legal Office Environment****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on legal concepts and the structure of law firms as applicable to paralegals and other support staff. Topics include: legal terminology, court systems and procedures, administrative functions, and ethics and professionalism.

Prerequisites: ENG 085 or appropriate placement

**IM 170 Electronic Project Management: Microsoft Project****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on skills for creating project plans and schedules using Microsoft Project software. Topics include: communicating project information, assigning and tracking resources and costs, tracking progress, and sharing project information with people and with other software applications.

Prerequisites: IM 130 (minimum grade C)

**IM 191 Part-Time Cooperative Education 1: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**IM 192 Part-Time Cooperative Education 2: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 191

**IM 193 Part-Time Cooperative Education 3: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 192

**IM 194 Part-Time Cooperative Education 4: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 193

**IM 195 Part-Time Cooperative Education 5: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 194

**IM 196 Part-Time Cooperative Education 6: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 195

**IM 200 Information Systems for Managers****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on foundational concepts related to use of information systems such as the internet, e-mail, spreadsheet software, and database software.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 225 Legal Transcription and Formatting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on preparing and transcribing a variety of legal documents for litigation, probate, and family law practices. Topics include: legal terminology, attention to detail, and proofreading.

Prerequisites: IM 135 and IM 165 (minimum grade C for both)

**IM 260 Medical Administrative Procedures****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills for appropriately operating any computerized billing and scheduling software used in medical offices. Topics include: terminology, gathering patient information, and entering transactions. Students complete case studies using billing/scheduling software.

Prerequisites: IM 115 and IM 130 (minimum grade C for both) and MCH 102

**IM 290 Administrative Assistant Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students seeking the Administrative Assistant associate degree complete projects that demonstrate proficiency in integrated use of workplace software applications, as well as proficiency in techniques for research and communication.

Prerequisites: IM 120, IM 130, IM 140, and IM 145 (minimum grade C for all)

**IM 291 Full-Time Cooperative Education 1: Information Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**IM 292 Full-Time Cooperative Education 2: Information Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 291

**IM 293 Full-Time Cooperative Education 3: Information Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 292

## Computer Applications Certificate (CAPC)

### Computer Applications Certificate (CAPC)

The Computer Applications Certificate assists professionals who are seeking career development opportunities while earning college credit, as well as students in any program or major who want to increase employment options by adding to their computer skills.

The certificate program builds proficiencies in using Microsoft Office software within a workplace environment. Many of the certificate courses prepare students to take Microsoft Office Support and Expert Specialist certification tests for various Microsoft Office software applications.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

### Computer Applications Certificate (CAPC)

Semester 1		Lec	Lat	Credits
IM 130	Electronic Word Processing: Microsoft Word	2	3	3
IM 150	Electronic Presentations: Microsoft PowerPoint	2	3	3
IM XXX	Technical Elective 1	2	2	3
Semester 2				
IM 120	Electronic Spreadsheets: Microsoft Excel	2	3	3
IM 160	Electronic Publications: Microsoft Publisher	2	2	3
IM XXX	Technical Elective 2	2	2	3

IM XXX Technical Elective 3		2	2	3
<b>Semester 3</b>				
IM 109	Introductory Database Management: Microsoft Access	0	2	1
IM 155	Emerging Technologies and Social Media	2	2	3
IM XXX Technical Elective 4		2	2	3
IM XXX Technical Elective 5		2	2	3
Total Credits:		20	25	31

## Electives

### Technical Electives

IM 111	Computer Applications	3
IM 115	Administrative Office Procedures and Practices	3
IM 135	Business Document Formatting	3
IM 145	Document Proofreading and Editing	3
IM 165	Legal Office Environment	3
IM 170	Electronic Project Management: Microsoft Project	3
IM 200	Information Systems for Managers	3
IM 260	Medical Administrative Procedures	3
IM 290	Administrative Assistant Capstone	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Program Chair

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### Advisor

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## IM Courses

### IM 100 Computer Literacy

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamental concepts and skills for using computers.

Prerequisites: None

### IM 105 Keyboarding Skills

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamental techniques for building keyboarding speed and formatting documents. Students must achieve a minimum speed of 15 words per minute to pass the course.

Prerequisites: None

### IM 106 Introductory Electronic Word Processing: Microsoft Word

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental practical applications of Microsoft Word software. Topics include: creating and formatting documents, tables, and reports.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

### IM 107 Introductory Electronic Presentations: Microsoft PowerPoint

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamentals of developing effective slide presentations using Microsoft Office PowerPoint software. Topics include: creating and editing presentations with pictures, and adding media and animation.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

### IM 108 Introductory Electronic Spreadsheets: Microsoft Excel

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental techniques for using Microsoft Office Excel software. Topics include: constructing worksheets, writing formulas, using functions, and creating graphs.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

### IM 109 Introductory Database Management: Microsoft Access

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental practical applications of Microsoft Office Access software. Topics include: developing tables, queries, and reports; working in datasheet and design view; and maintaining database files.

Prerequisites: ENG 085 or appropriate placement

### IM 111 Computer Applications

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental skills for using workplace software applications. Topics include: Microsoft Office applications for word processing (MS Word), spreadsheets (MS Excel), database management (MS Access), and presentations (MS PowerPoint); the MS Windows operating system; using the internet; and file storage.

Prerequisites: ENG 080 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed or higher

### IM 115 Administrative Office Procedures and Practices

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts and skills required to perform office administration duties and activities.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

Corequisites: IM 130

### IM 120 Electronic Spreadsheets: Microsoft Excel

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for using Microsoft Office Excel spreadsheet software. Topics include: constructing worksheets, writing formulas, constructing macros, and using spreadsheets with databases.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

**IM 130 Electronic Word Processing: Microsoft Word**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for word processing using Microsoft Office Word software. Topics include: developing letters and reports, using mail merge, and designing forms.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 135 Business Document Formatting**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on composing, editing, and formatting professional business documents using appropriate business communication methods.

Prerequisites: IM 130 (minimum grade C) and 40 wpm minimum keyboarding speed

**IM 140 Electronic Database Management: Microsoft Access**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts and skills for using Microsoft Office Access database management software. Topics include: designing, customizing, and maintaining database files; and integrating database files with other software applications.

Prerequisites: IM 111 or IM 130 (minimum grade C for both)

**IM 145 Document Proofreading and Editing**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using editing and proofreading skills to produce documents that are correct, complete, concise, coherent, clear, and courteous.

Prerequisites: ENG 101, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 150 Electronic Presentations: Microsoft PowerPoint**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on skills for developing effective slide presentations using Microsoft Office PowerPoint software.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 155 Emerging Technologies and Social Media**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on using web tools and social media in the workplace. Topics include: Microsoft Office OneNote, speech recognition, digital cameras, scanners, tablets, web communication including blogs and podcasts, and establishing brand identity through social media.

Prerequisites: IM 111 or IM 130 (minimum grade C for both)

**IM 160 Electronic Publications: Microsoft Publisher**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills for preparing professional documents that combine text and images using Microsoft Publisher software.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 165 Legal Office Environment**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on legal concepts and the structure of law firms as applicable to paralegals and other support staff. Topics include: legal terminology, court systems and procedures, administrative functions, and ethics and professionalism.

Prerequisites: ENG 085 or appropriate placement

**IM 170 Electronic Project Management: Microsoft Project**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on skills for creating project plans and schedules using Microsoft Project software. Topics include: communicating project information, assigning and tracking resources and costs, tracking progress, and sharing project information with people and with other software applications.

Prerequisites: IM 130 (minimum grade C)

**IM 191 Part-Time Cooperative Education 1: Information Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**IM 192 Part-Time Cooperative Education 2: Information Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 191

**IM 193 Part-Time Cooperative Education 3: Information Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 192

**IM 194 Part-Time Cooperative Education 4: Information Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 193

**IM 195 Part-Time Cooperative Education 5: Information Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 194

**IM 196 Part-Time Cooperative Education 6: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 195

**IM 200 Information Systems for Managers****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on foundational concepts related to use of information systems such as the internet, e-mail, spreadsheet software, and database software.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 225 Legal Transcription and Formatting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on preparing and transcribing a variety of legal documents for litigation, probate, and family law practices. Topics include: legal terminology, attention to detail, and proofreading.

Prerequisites: IM 135 and IM 165 (minimum grade C for both)

**IM 260 Medical Administrative Procedures****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills for appropriately operating any computerized billing and scheduling software used in medical offices. Topics include: terminology, gathering patient information, and entering transactions. Students complete case studies using billing/scheduling software.

Prerequisites: IM 115 and IM 130 (minimum grade C for both) and MCH 102

**IM 290 Administrative Assistant Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students seeking the Administrative Assistant associate degree complete projects that demonstrate proficiency in integrated use of workplace software applications, as well as proficiency in techniques for research and communication.

Prerequisites: IM 120, IM 130, IM 140, and IM 145 (minimum grade C for all)

**IM 291 Full-Time Cooperative Education 1: Information Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**IM 292 Full-Time Cooperative Education 2: Information Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 291

**IM 293 Full-Time Cooperative Education 3: Information Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 292

**LAW Courses****LAW 101 Business Law****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the legal environment in which businesses operate.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement Ohio Transfer Assurance Guide Approved

**LAW 110 Employment Law****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on major federal laws regarding employment rights, and responsibilities of the employer and employee. Topics include: public policy and processes related to hiring, work environment, and resignation and termination; and recent trends in employment law.

Prerequisites: ENG 080 or appropriate placement

**LAW 120 Legal Research and Writing****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for conducting legal research and composing legal documents. Topics include: research purposes and uses; citation procedure and format; computer research tools including LEXIS; and writing materials such as briefs, pleadings, memorandums, motions, and discovery documents.

Prerequisites: LAW 101 and ENG 101

**LAW 130 Estate Planning, Family and Probate Law****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and processes of family and probate law and estate planning. Topics include: marriage, dissolution, divorce, and prenuptial agreements; child custody, visitation, and support; adoption and guardianship; juvenile law; and trusts and estate administration.

Prerequisites: ENG 085 or appropriate placement, and LAW 101

**LAW 140 Copyright and Trademark Law in Entertainment Industries****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and processes used to protect intellectual property in entertainment industries. Topics include: representing creative talent; business and personality interests; licensing; copyright; and legal concerns in music publishing, sound recording, literary publishing, and film and television.

Prerequisites: LAW 101

**LAW 150 Bankruptcy, Debt Collection and Secured Transactions****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the bankruptcy code and the bankruptcy process from debtor and creditor perspectives. Topics include: filing Chapter 7, 13, and 11 bankruptcies; individual and business liquidation and reorganization plans; and secured transactions including mortgages and other liens.

Prerequisites: LAW 101

**LAW 160 Immigration and Administrative Law Practices and Procedures****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on forms, procedures, and case management methods used in immigration law and other administrative agencies. Topics include: intake, claim filing, processing, and handling appeals related to immigration, Social Security, unemployment, worker's compensation and other state and federal agencies.

Prerequisites: LAW 101

**LAW 191 Part-Time Cooperative Education 1: Legal Assistant****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**LAW 192 Part-Time Cooperative Education 2: Legal Assistant****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LAW 191

**LAW 193 Part-Time Cooperative Education 3: Legal Assistant****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LAW 192

**LAW 194 Part-Time Cooperative Education 4: Legal Assistant****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LAW 193

**LAW 195 Part-Time Cooperative Education 5: Legal Assistant****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LAW 194

**LAW 196 Part-Time Cooperative Education 6: Legal Assistant****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LAW 195

**LAW 210 Litigation****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and processes of criminal and civil litigation. Topics include: parties to lawsuits, pleadings, motion practice, Federal Rules of Civil and Criminal Procedure, Federal Rules of Evidence, discovery, trial judgments, and alternative dispute resolution.

Prerequisites: LAW 101 and ENG 101

**LAW 290 Paralegal Capstone****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Students use knowledge and skills gained in previous courses to complete a project related to the duties of the paralegal.

Prerequisites: IM 225 and LAW 120 (minimum grade C for both)

**LAW 291 Full-Time Cooperative Education 1: Legal Assistant****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**LAW 292 Full-Time Cooperative Education 2: Legal Assistant****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LAW 291

**LAW 293 Full-Time Cooperative Education 3: Legal Assistant****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LAW 292

## Landscape Horticulture Technologies

An appreciation for nature is a prerequisite for careers in the diverse field of landscape and turf management, which is experiencing strong growth in the Greater Cincinnati area. Horticulture students learn to combine skills in art, science, and business management to enhance the world around them.

The department offers three programs leading to an Associate of Applied Business degree and two certificate programs.

- Landscape Horticulture (p. 72) provides opportunities to specialize in landscape design and contracting, landscape management, plant production, tree care, interior plantscaping, and floral design.
- Sustainable Horticulture (p. 76) is an option for students interested in solving ecological challenges through new landscape techniques, such as managing stormwater and reducing energy consumption.
- Turfgrass Management (p. 81) prepares graduates for careers in golf course, sports turf, and commercial or residential lawn management.
- The Landscape Design Certificate (p. 72) allows students to concentrate on courses specific to landscape design and

construction, and is best utilized in conjunction with the Landscape Horticulture or Sustainable Horticulture degree.

- The Sustainable Agriculture Management Certificate (p. 76) offers a concentration on specialty crop food production in an urban environment.

A significant number of students double-major in Landscape Horticulture and Turfgrass Management, to increase opportunities in the green industries, or double-major in Landscape Horticulture and Sustainable Horticulture. Another double major option is Landscape Horticulture Technology and Business Management Technology.

Because of seasonal employment opportunities for horticultural jobs, cooperative education assignments usually occur during the Summer semester.

For more information, please contact the Business Technologies Division at (513) 569-1620.

## Landscape Horticulture (LH & LDC)

### Landscape Horticulture (LH)

The Landscape Horticulture associate's degree program focuses on interior and exterior landscape design, installation, and management.

Students complete foundation courses in horticulture, and then take additional technical courses in subject areas tailored to individual needs, including advanced landscape design, computerized landscape design, landscape construction, arboriculture, or greenhouse or nursery management. Core business courses prepare students for management positions.

The Landscape Horticulture degree program is industry-accredited by the National Association of Landscape Professionals (NALP)

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

### Landscape Design Certificate (LDC)

The Landscape Design Certificate is for students interested in learning landscape design skills, and is an excellent addition to the Landscape Horticulture major.

For students who already have an associate's or bachelor's degree (usually in business or horticulture), the Landscape Design Certificate meets the need for professional credentials in the field of landscape design.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

## Landscape Horticulture (LH)

		Lec	Lat	Credits
<b>Semester 1</b>				
ENG 101	English Composition 1 ( G )	3	0	3
LH 105	Horticulture Occupations ( B )	1	1	1
LH 120	Soil Science and Plant Nutrition ( T )	2	2	3
LH 130	Woody Plant Materials ( T )	1	5	3
LH 125	Turfgrass Management ( B )	2	2	3
LH 140	Landscape Operations ( B )	2	3	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
<b>Semester 2</b>				
BUS 190	Professional Practices ( B )	1	0	1
LH 110	Horticulture Science ( G )	2	3	3
LH 151	Landscape Design 1 ( T )	2	3	3
ENG 10X	English Composition Elective ( G )	3	0	3
XXX XXX	Computer Elective ( T )	2	3	3
MAT 1XX	Mathematics Elective ( G )	3	0	3
<b>Semester 3</b>				
LH 135	Herbaceous Plant Materials ( T )	2	3	3
LH 165	Landscape Construction ( T )	2	3	3
LH X9X	Cooperative Education Elective 1: Landscape Horticulture ( T )	1	40	2
<b>Semester 4</b>				
ACC 101	Financial Accounting ( B )	2	2	3
LAW 101	Business Law ( B )	3	0	3
LH XXX	Landscape Elective 1 ( T )	2	3	3
XXX XXX	Management/Marketing Elective ( B )	3	0	3
<b>Semester 5</b>				
LH 205	Landscape Pests and Controls ( T )	2	3	3
LH 240	Landscape Management ( T )	2	3	3
LH XXX	Landscape Elective 2 ( T )	3	0	3



XXX XXX Arts/ Humanities Elective or Social/ Behavioral Science Elective (G)	3	0	3
<b>Semester 6</b> LH X9X Cooperative Education Elective 2: Landscape Horticulture (T)	1	40	2
Total Credits:	51	119	67

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Computer Elective

LH 155	Computer-Aided Landscape Design	3
IM 111	Computer Applications	3
IM 120	Electronic Spreadsheets: Microsoft Excel	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3
MAT 125	Algebra and Trigonometry	4

### Landscape Electives

LH 115	Floral Design and Marketing	3
LH 160	Irrigation Design, Installation, and Management	3
LH 175	Interior Plantscaping	3
LH 215	Arboriculture	3
LH 225	Greenhouse Management and Plant Production	3
LH 252	Landscape Design 2	3
LH 265	Landscape Grading, Drainage, and Surveying	3

### Management/Marketing Elective

MGT 101	Principles of Management	3
MGT 105	Human Resource Management	3
MGT 120	Entrepreneurship	3
MGT 130	Project Management	3
MKT 101	Principles of Marketing	3
MKT 105	Marketing and Customer Relations	3
MKT 130	Professional Selling	3

### Arts/Humanities Elective or Social/Behavioral Science Elective (select one course)

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

or, any Transfer Module course from ECO, GEO, HST, LBR, POL, PSY, SOC, or SPN 101

### Cooperative Education Electives (4 credit hours required)

LH 191	Part-Time Cooperative Education 1: Landscape Horticulture	1
LH 192	Part-Time Cooperative Education 2: Landscape Horticulture	1
LH 193	Part-Time Cooperative Education 3: Landscape Horticulture	1
LH 194	Part-Time Cooperative Education 4: Landscape Horticulture	1
LH 291	Full-Time Cooperative Education 1: Landscape Horticulture	2
LH 292	Full-Time Cooperative Education 2: Landscape Horticulture	2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Landscape Design Certificate (LDC)

Semester 1		Lec	Lat	Credits
LH 105	Horticulture Occupations	1	1	1
LH 110	Horticulture Science	2	3	3
LH 120	Soil Science and Plant Nutrition	2	2	3
LH 130	Woody Plant Materials	1	5	3
LH 140	Landscape Operations	2	3	3
LH 151	Landscape Design 1	2	3	3
Semester 2				
LH 135	Herbaceous Plant Materials	2	3	3
LH 155	Computer-Aided Landscape Design	2	3	3
LH 160	Irrigation Design, Installation, and Management	2	3	3
LH 165	Landscape Construction	2	3	3
Semester 3				
LH 240	Landscape Management	2	3	3
LH 252	Landscape Design 2	2	3	3

LH 265	Landscape Grading, Drainage, and Surveying	2	2	3
Total Credits:		24	37	37

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Landscape Horticulture (LH)

- LH graduates are prepared to enter the green industry workforce at the technician level or above.
- LH graduates complete a rigorous curriculum based on sound science.
- LH graduates are prepared to design, sell, and install landscapes.
- LH graduates are prepared to estimate and price proposals for landscape management services.
- LH graduates have a broad-based knowledge of woody and herbaceous plants including identification, culture, and potential issues with common landscape plants.
- LH graduates can communicate effectively through multiple means.
- LH graduates can recognize, evaluate, and solve problems in landscapes.
- LH graduates can identify and safely operate a variety of equipment and tools commonly used in the green industry.
- LH graduates can identify potential plant pests, determine if controls are needed, evaluate potential controls, and apply the most effective control.

## Faculty

### Program Chair

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### Co-op Coordinator

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### Advisors

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## Courses

### LH 105 Horticulture Occupations 1 Credit. 1 Lecture Hour. 1 Lab Hour.

An introduction to horticulture occupations in the Cincinnati region. Topics include: job levels, working conditions, abilities needed, and benefits within the horticulture industries; resume preparation; interviewing; and business etiquette for the landscaping industry. Prerequisites: None

### LH 110 Horticulture Science 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A course on plant classification, structures, physiology, and development, and the environmental conditions that affect plant growth.

Prerequisites: ENG 085 or appropriate placement

### LH 115 Floral Design and Marketing 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on concepts and techniques of floral design. Topics include: floral design styles, pricing, shop management, and specialized work such as weddings and funerals. Students must attend off-campus field trips.

Prerequisites: None

### LH 120 Soil Science and Plant Nutrition 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A course on physical, chemical, and biological properties of soils. Topics include: soil formation; soil conservation; and properties of soils that affect plant growth, development, and health.

Prerequisites: ENG 085 or appropriate placement

### LH 125 Turfgrass Management 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on principles and practices for management of turfgrass installations. Topics include: turfgrass identification, growth, uses, and establishment; and pest control. Students must attend field trips.

Prerequisites: MAT 093 or appropriate placement

### LH 130 Woody Plant Materials 3 Credits. 1 Lecture Hour. 5 Lab Hours.

A course on woody plants grown by nurseries and found in the landscape and in naturalized settings of Ohio. Topics include: identifying the features and landscape uses of deciduous and evergreen trees, shrubs, and vines. Students must attend weekly plant walk field trips.

Prerequisites: ENG 085 or appropriate placement

### LH 135 Herbaceous Plant Materials 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A course on annual, biennial, and non-woody plants commonly used in landscapes of the greater Cincinnati region. Topics include: identification, culture, and design uses of plants for landscapes.

Prerequisites: ENG 085 or appropriate placement

### LH 140 Landscape Operations 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A course on equipment used for landscape activities such as planting trees and shrubs and maintaining landscaped areas. Topics include: job safety; and operations of equipment such as loaders, backhoes, tractors, and commercial mowers. Students must attend field trips.

Prerequisites: None

### LH 145 Horticulture Mechanics 3 Credits. 2 Lecture Hours. 2 Lab Hours.

An introduction to the mechanical systems used in the landscape industry. Topics include small engine theory, operation, and repair; gasoline and diesel fuels; hydraulic power systems; and traditional and alternative electrical systems.

Prerequisites: None

**LH 151 Landscape Design 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on landscape development for residential and small commercial sites. Topics include: the design process, proper design development, and graphics and lettering. Students must provide their own drawing tools and must attend field trips.

Prerequisites: ENG 085 or appropriate placement

**LH 155 Computer-Aided Landscape Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for using computers in landscape design and contracting. Topics include: generating plot plans, planting plans, and presentation drawings.

Prerequisites: ENG 085 or appropriate placement

**LH 160 Irrigation Design, Installation, and Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on designing, installing, and managing residential and commercial irrigation systems. Students must participate in field work.

Prerequisites: LH 125 and LH 151 (minimum grade C for both)

**LH 165 Landscape Construction****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques and use of materials for constructing and installing landscape planting features and structures such as gardens, terraces, walls, fences, mounds, ponds, irrigation, and outdoor lighting. Students must participate in field work.

Prerequisites: LH 151 (minimum grade C)

**LH 170 From Field to Kitchen****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on edible plants, herbs, and spices and their use in culinary preparations.

Prerequisites: None

Instructor Consent Required

**LH 175 Interior Plantscaping****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the use of foliage and blooming plants to enhance interior areas of buildings. Topics include: classification, culture, and design applications.

Prerequisites: ENG 085 or appropriate placement

**LH 191 Part-Time Cooperative Education 1: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**LH 192 Part-Time Cooperative Education 2: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 191

**LH 193 Part-Time Cooperative Education 3: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 192

**LH 194 Part-Time Cooperative Education 4: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 194

**LH 195 Part-Time Cooperative Education 5: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 195

**LH 196 Part-Time Cooperative Education 6: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 195

**LH 205 Landscape Pests and Controls****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on identification, diagnosis, and control of common insect, disease, and weed pests in the landscape industry. Topics include: integrated pest management/plant health care principles, and Ohio Department of Agriculture Commercial CORE and Category 6d exams.

Prerequisites: LH 110 and LH 130 and LH 135 (minimum grade C for all)

**LH 210 Turfgrass Pests and Controls****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on identification, diagnosis, and control of common insect, disease, and weed pests of turfgrasses. Topics include: integrated pest management/plant health care principles, and Ohio Department of Agriculture Commercial CORE and Category 8 exams. Students must attend field trips.

Prerequisites: LH 110 and LH 125 (minimum grade C for both)

**LH 215 Arboriculture****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on principles and techniques of the commercial arboriculture business. Topics include: trees and the environment; protection, diagnosis, and treatment of tree health problems; techniques for pruning, removal, and climbing; and job safety. Students must attend field trips.

Prerequisites: LH 110 (minimum grade C)

**LH 225 Greenhouse Management and Plant Production****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and practices for greenhouse management and plant production. Topics include: greenhouse structures and maintenance, and managing environmental conditions vital to plant growth. Students must attend field trips.

Prerequisites: LH 110 and LH 135 (minimum grade C for both)

**LH 230 Landscape Solutions to Stormwater Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using landscaping to manage stormwater and water runoff. Topics include: the ecology, design, installation, and maintenance of water management and retention systems including bioswales, green roofs, and rain gardens. Students must attend field trips.

Prerequisites: LH 110 and LH 120 and LH 151 (minimum grade C for all)

**LH 240 Landscape Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on principles and practices of management used in the landscape industry. Topics include: seasonal planning for landscape maintenance, contracts and specifications, cost estimating, business management, and personnel management. Students must attend field trips.

Prerequisites: LH 110 and LH 120 and LH 130 (minimum grade C for all), and MAT 093 or appropriate placement

**LH 245 Plants for Sustainable Landscapes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on identification, culture, and uses of nursery-grown woody and herbaceous plants in Cincinnati-area sustainable landscapes. Topics include: using native species appropriately, and controlling invasive species. Students must attend weekly field trips.

Prerequisites: LH 130 and LH 135 and LH 151 (minimum grade C for all)

**LH 252 Landscape Design 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on application of design theory to develop creative solutions to landscape problems. Topics include: graphic skills such as section, elevation, isometric and perspective techniques; construction plans; interaction with clients; and sales presentations. Students must attend field trips.

Prerequisites: LH 130 and LH 140 and LH 151 (minimum grade C for all)

**LH 255 Golf Course and Athletic Field Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for golf course and athletic field management. Topics include: layout and construction, course/field management systems, maintenance, budgeting, record-keeping, golf-specific turf care, turfgrass selection and enhancement, practices for playability enhancement, field set-up, and renovation of existing fields. Students must attend field trips.

Prerequisites: LH 125 (minimum grade C) and instructor consent  
Instructor Consent Required

**LH 265 Landscape Grading, Drainage, and Surveying****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on landscape site preparation. Topics include: site assessment, establishing grades, soil conservation and improvement, surface and sub-surface drain systems, cut-and-fill calculations, and safe operation of equipment. Students must attend field trips.

Prerequisites: LH 151 (minimum grade C) and MAT 093 or appropriate placement

**LH 290 Sustainable Landscape Design Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students complete a project while examining the landscape designer's role in restoring and protecting habitats. Topics include: site choice, stormwater controls, xeriscaping, criteria for LEED and other certifications, and techniques for landscape features such as green roofs and rain gardens. Students must attend field trips.

Prerequisites: LH 151 and LH 155 and LH 230 and LH 245 (minimum grade C for all)

**LH 291 Full-Time Cooperative Education 1: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**LH 292 Full-Time Cooperative Education 2: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 291

**LH 293 Full-Time Cooperative Education 3: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 292

## Sustainable Horticulture (SH & AGRC)

### Sustainable Horticulture (SH)

In the Sustainable Horticulture associate's degree program students learn sustainable landscape techniques and technologies including

design, implementation, and management of green roofs and green walls; stormwater management best practices; sustainable choices in plant materials; and use of alternative energy systems in landscapes.

Students complete foundation courses in landscape horticulture and environmental science, and then take additional technical courses in sustainable horticulture.

Core business courses prepare students for leadership roles in local businesses and municipalities, while cooperative education employment experiences allow students to further develop their knowledge in positions with companies utilizing sustainable horticulture.

The Sustainable Horticulture program is accredited by the National Association of Landscape Professionals (NALP).

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Sustainable Agriculture Management Certificate (AGRC)

The Sustainable Agriculture Management Certificate program leads to career opportunities in specialty crop growing operations, farmers' markets, and other urban agriculture initiatives.

The program is designed for completion in one year (three semesters) as a full-time student. Students are involved in continuous hands-on learning at a local farm throughout the program.

Coursework includes soil and plant science, detailed production of specialty crops, and an introduction to raising small animals, along with the financial, marketing, and management skills needed to successfully run an agriculture business.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Sustainable Horticulture (SH)

Semester 1		Lec	Lat	Credits
ENG 101	English Composition 1 ( G )	3	0	3
LH 140	Landscape Operations ( T )	2	3	3
LH 105	Horticulture Occupations ( B )	1	1	1
LH 120	Soil Science and Plant Nutrition ( T )	2	2	3
LH 130	Woody Plant Materials ( B )	1	5	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1

XXX XXX	Environmental Science Elective ( B )	3	0	3
<b>Semester 2</b>				
BUS 190	Professional Practices ( B )	1	0	1
LH 110	Horticulture Science ( G )	2	3	3
LH 151	Landscape Design 1 ( T )	2	3	3
LH 155	Computer-Aided Landscape Design ( T )	2	3	3
ENG 1XX	English Composition Elective ( G )	3	0	3
MAT 1XX	Mathematics Elective ( G )	3	0	3
<b>Semester 3</b>				
LH 165	Landscape Construction ( T )	2	3	3
LH 135	Herbaceous Plant Materials ( T )	2	3	3
LH X9X	Cooperative Education Elective 1: Landscape Horticulture ( T )	1	40	2
<b>Semester 4</b>				
ACC 101	Financial Accounting ( B )	2	2	3
LAW 101	Business Law ( B )	3	0	3
LH 230	Landscape Solutions to Stormwater Management ( T )	2	3	3
LH 245	Plants for Sustainable Landscapes ( T )	2	3	3
<b>Semester 5</b>				
LH 240	Landscape Management ( T )	2	3	3
LH 290	Sustainable Landscape Design Capstone ( T )	2	3	3
XXX XXX	Arts/ Humanities Elective or Social/ Behavioral Science Elective ( G )	3	0	3
XXX XXX	Management/ Marketing Elective ( B )	3	0	3
<b>Semester 6</b>				

LH X9X Cooperative Education Elective 2: Landscape Horticulture (T)	1	40	2
Total Credits:	51	120	67

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Environmental Science Elective

EVS 110	Environmental Science: Conservation and Cleanup	4
EVS 120	Environmental Geology	4
EVS 130	Environmental Science: Ecology and Ecosystems	4
EVT 175	Watershed Management	3
BIO 270	Ecology	5

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Management/Marketing Elective

MGT 101	Principles of Management	3
MGT 105	Human Resource Management	3
MGT 120	Entrepreneurship	3
MGT 130	Project Management	3
MKT 101	Principles of Marketing	3
MKT 105	Marketing and Customer Relations	3
MKT 130	Professional Selling	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3
MAT 125	Algebra and Trigonometry	4

### Arts/Humanities Elective or Social/Behavioral Science Elective (select one course)

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

or, any Transfer Module course from ECO, GEO, HST, LBR, POL, PSY, SOC, or SPN 101

### Cooperative Education Electives (4 credit hours required)

LH 191	Part-Time Cooperative Education 1: Landscape Horticulture	1
LH 192	Part-Time Cooperative Education 2: Landscape Horticulture	1
LH 193	Part-Time Cooperative Education 3: Landscape Horticulture	1

LH 194	Part-Time Cooperative Education 4: Landscape Horticulture	1
LH 291	Full-Time Cooperative Education 1: Landscape Horticulture	2
LH 292	Full-Time Cooperative Education 2: Landscape Horticulture	2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Sustainable Agriculture Management Certificate (AGRC)

Semester 1		Lec	Lat	Credits
AGR 100	Introduction to Urban Agriculture	2	3	3
LH 120	Soil Science and Plant Nutrition	2	2	3
AGR 150	Fall Production	0	6	3
ACC 101	Financial Accounting	2	2	3
Semester 2				
AGR 105	Vegetable Crop Production	2	3	3
LH 110	Horticulture Science	2	3	3
AGR 155	Spring Production	0	6	3
MKT 1XX	Marketing Elective	3	0	3
Semester 3				
MGT 120	Entrepreneurship	3	0	3
AGR 135	Fruit and Nut Production	2	3	3
AGR 140	Farm Ecology Management	2	3	3
AGR 160	Summer Production	0	6	3
Total Credits:		20	37	36

## Electives

### Marketing Elective

MKT 105	Marketing and Customer Relations	3
MKT 130	Professional Selling	3

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- This curriculum displays only course numbers without the added letter.

- The alternative version, when available, meets the requirements of the course version without the added letter.

## Sustainable Horticulture (SH)

- SH graduates are prepared to enter the green industry workforce at the technician level or above.
- SH graduates complete a rigorous curriculum based on sound science.
- SH graduates are prepared to design, sell, and install landscapes.
- SH graduates are prepared to estimate and price proposals for landscape management services.
- SH graduates have a broad-based knowledge of woody and herbaceous plants including identification, culture, and potential issues with common landscape plants.
- SH graduates can communicate effectively through multiple means.
- SH graduates can recognize, evaluate, and solve problems in landscapes.
- SH graduates can identify and safely operate a variety of equipment and tools commonly used in the green industry.
- SH graduates can identify environmental issues on a site (e.g., storm water, pollinators, etc.), analyze alternatives, and synthesize creative solutions that perform multiple aesthetic, engineering, and environmental functions.

## Faculty

### Program Chair

Samuel (Mark) Deacon, MC  
mark.deacon@cincinnatiastate.edu

### Co-op Coordinator

Brian Hooten, MAOL  
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### Advisors

Heather Augustine, MS, LEED Green Associate  
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Stephenie Seta, MAEd  
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## Courses

### LH 105 Horticulture Occupations

**1 Credit. 1 Lecture Hour. 1 Lab Hour.**

An introduction to horticulture occupations in the Cincinnati region. Topics include: job levels, working conditions, abilities needed, and benefits within the horticulture industries; resume preparation; interviewing; and business etiquette for the landscaping industry. Prerequisites: None

### LH 110 Horticulture Science

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on plant classification, structures, physiology, and development, and the environmental conditions that affect plant growth.

Prerequisites: ENG 085 or appropriate placement

### LH 115 Floral Design and Marketing

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts and techniques of floral design. Topics include: floral design styles, pricing, shop management, and specialized work such as weddings and funerals. Students must attend off-campus field trips.

Prerequisites: None

### LH 120 Soil Science and Plant Nutrition

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on physical, chemical, and biological properties of soils. Topics include: soil formation; soil conservation; and properties of soils that affect plant growth, development, and health.

Prerequisites: ENG 085 or appropriate placement

### LH 125 Turfgrass Management

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and practices for management of turfgrass installations. Topics include: turfgrass identification, growth, uses, and establishment; and pest control. Students must attend field trips.

Prerequisites: MAT 093 or appropriate placement

### LH 130 Woody Plant Materials

**3 Credits. 1 Lecture Hour. 5 Lab Hours.**

A course on woody plants grown by nurseries and found in the landscape and in naturalized settings of Ohio. Topics include: identifying the features and landscape uses of deciduous and evergreen trees, shrubs, and vines. Students must attend weekly plant walk field trips.

Prerequisites: ENG 085 or appropriate placement

### LH 135 Herbaceous Plant Materials

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on annual, biennial, and non-woody plants commonly used in landscapes of the greater Cincinnati region. Topics include: identification, culture, and design uses of plants for landscapes.

Prerequisites: ENG 085 or appropriate placement

### LH 140 Landscape Operations

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on equipment used for landscape activities such as planting trees and shrubs and maintaining landscaped areas. Topics include: job safety; and operations of equipment such as loaders, backhoes, tractors, and commercial mowers. Students must attend field trips.

Prerequisites: None

### LH 145 Horticulture Mechanics

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to the mechanical systems used in the landscape industry. Topics include small engine theory, operation, and repair; gasoline and diesel fuels; hydraulic power systems; and traditional and alternative electrical systems.

Prerequisites: None

### LH 151 Landscape Design 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on landscape development for residential and small commercial sites. Topics include: the design process, proper design development, and graphics and lettering. Students must provide their own drawing tools and must attend field trips.

Prerequisites: ENG 085 or appropriate placement

**LH 155 Computer-Aided Landscape Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for using computers in landscape design and contracting. Topics include: generating plot plans, planting plans, and presentation drawings.

Prerequisites: ENG 085 or appropriate placement

**LH 160 Irrigation Design, Installation, and Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on designing, installing, and managing residential and commercial irrigation systems. Students must participate in field work.

Prerequisites: LH 125 and LH 151 (minimum grade C for both)

**LH 165 Landscape Construction****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques and use of materials for constructing and installing landscape planting features and structures such as gardens, terraces, walls, fences, mounds, ponds, irrigation, and outdoor lighting. Students must participate in field work.

Prerequisites: LH 151 (minimum grade C)

**LH 170 From Field to Kitchen****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on edible plants, herbs, and spices and their use in culinary preparations.

Prerequisites: None

Instructor Consent Required

**LH 175 Interior Plantscaping****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the use of foliage and blooming plants to enhance interior areas of buildings. Topics include: classification, culture, and design applications.

Prerequisites: ENG 085 or appropriate placement

**LH 191 Part-Time Cooperative Education 1: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**LH 192 Part-Time Cooperative Education 2: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 191

**LH 193 Part-Time Cooperative Education 3: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 192

**LH 194 Part-Time Cooperative Education 4: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 194

**LH 195 Part-Time Cooperative Education 5: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 195

**LH 196 Part-Time Cooperative Education 6: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 195

**LH 205 Landscape Pests and Controls****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on identification, diagnosis, and control of common insect, disease, and weed pests in the landscape industry. Topics include: integrated pest management/plant health care principles, and Ohio Department of Agriculture Commercial CORE and Category 6d exams.

Prerequisites: LH 110 and LH 130 and LH 135 (minimum grade C for all)

**LH 210 Turfgrass Pests and Controls****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on identification, diagnosis, and control of common insect, disease, and weed pests of turfgrasses. Topics include: integrated pest management/plant health care principles, and Ohio Department of Agriculture Commercial CORE and Category 8 exams. Students must attend field trips.

Prerequisites: LH 110 and LH 125 (minimum grade C for both)

**LH 215 Arboriculture****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on principles and techniques of the commercial arboriculture business. Topics include: trees and the environment; protection, diagnosis, and treatment of tree health problems; techniques for pruning, removal, and climbing; and job safety. Students must attend field trips.

Prerequisites: LH 110 (minimum grade C)

**LH 225 Greenhouse Management and Plant Production****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and practices for greenhouse management and plant production. Topics include: greenhouse structures and maintenance, and managing environmental conditions vital to plant growth. Students must attend field trips.

Prerequisites: LH 110 and LH 135 (minimum grade C for both)



**LH 230 Landscape Solutions to Stormwater Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using landscaping to manage stormwater and water runoff. Topics include: the ecology, design, installation, and maintenance of water management and retention systems including bioswales, green roofs, and rain gardens. Students must attend field trips.

Prerequisites: LH 110 and LH 120 and LH 151 (minimum grade C for all)

**LH 240 Landscape Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on principles and practices of management used in the landscape industry. Topics include: seasonal planning for landscape maintenance, contracts and specifications, cost estimating, business management, and personnel management. Students must attend field trips.

Prerequisites: LH 110 and LH 120 and LH 130 (minimum grade C for all), and MAT 093 or appropriate placement

**LH 245 Plants for Sustainable Landscapes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on identification, culture, and uses of nursery-grown woody and herbaceous plants in Cincinnati-area sustainable landscapes.

Topics include: using native species appropriately, and controlling invasive species. Students must attend weekly field trips.

Prerequisites: LH 130 and LH 135 and LH 151 (minimum grade C for all)

**LH 252 Landscape Design 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on application of design theory to develop creative solutions to landscape problems. Topics include: graphic skills such as section, elevation, isometric and perspective techniques; construction plans; interaction with clients; and sales presentations. Students must attend field trips.

Prerequisites: LH 130 and LH 140 and LH 151 (minimum grade C for all)

**LH 255 Golf Course and Athletic Field Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for golf course and athletic field management.

Topics include: layout and construction, course/field management systems, maintenance, budgeting, record-keeping, golf-specific turf care, turfgrass selection and enhancement, practices for playability enhancement, field set-up, and renovation of existing fields. Students must attend field trips.

Prerequisites: LH 125 (minimum grade C) and instructor consent  
Instructor Consent Required

**LH 265 Landscape Grading, Drainage, and Surveying****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on landscape site preparation. Topics include: site assessment, establishing grades, soil conservation and improvement, surface and sub-surface drain systems, cut-and-fill calculations, and safe operation of equipment. Students must attend field trips.

Prerequisites: LH 151 (minimum grade C) and MAT 093 or appropriate placement

**LH 290 Sustainable Landscape Design Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students complete a project while examining the landscape designer's role in restoring and protecting habitats. Topics include: site choice, stormwater controls, xeriscaping, criteria for LEED and other certifications, and techniques for landscape features such as green roofs and rain gardens. Students must attend field trips.

Prerequisites: LH 151 and LH 155 and LH 230 and LH 245 (minimum grade C for all)

**LH 291 Full-Time Cooperative Education 1: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**LH 292 Full-Time Cooperative Education 2: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 291

**LH 293 Full-Time Cooperative Education 3: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 292

## Turfgrass Management (TURF)

### Turfgrass Management (TURF)

Turfgrass Management associate's degree graduates commonly work for golf courses, athletic field complexes, or lawn care companies. Students complete foundation horticulture courses, and then take specialized turf management courses. Core business courses prepare students for leadership roles in local businesses and municipalities.

Cooperative education employment for Turfgrass Management majors usually is completed at local golf courses, athletic facilities, or lawn care companies.

The Turfgrass Management program is accredited by the National Association of Landscape Professionals (NALP).

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Turfgrass Management (TURF)

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
LH 105	Horticulture Occupations ( <b>B</b> )	1	1	1
LH 120	Soil Science and Plant Nutrition ( <b>T</b> )	2	2	3
LH 125	Turfgrass Management ( <b>B</b> )	2	2	3
LH 130	Woody Plant Materials ( <b>T</b> )	1	5	3
LH 140	Landscape Operations ( <b>B</b> )	2	3	3
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
<b>Semester 2</b>				
BUS 190	Professional Practices ( <b>B</b> )	1	0	1
LH 151	Landscape Design 1 ( <b>T</b> )	2	3	3
LH 110	Horticulture Science ( <b>G</b> )	2	3	3
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
XXX XXX	Computer Elective ( <b>T</b> )	2	2	3
MAT 1XX	Mathematics Elective ( <b>G</b> )	3	0	3
<b>Semester 3</b>				
LH 135	Herbaceous Plant Materials ( <b>T</b> )	2	3	3
LH 165	Landscape Construction ( <b>T</b> )	2	3	3
LH X9X	Cooperative Education Elective 1: Landscape Horticulture ( <b>T</b> )	1	40	2
<b>Semester 4</b>				
ACC 101	Financial Accounting ( <b>B</b> )	2	2	3
LAW 101	Business Law ( <b>B</b> )	3	0	3
LH 160	Irrigation Design, Installation, and Management ( <b>T</b> )	2	3	3
XXX XXX	Management/Marketing Elective ( <b>B</b> )	3	0	3
<b>Semester 5</b>				
LH 210	Turfgrass Pests and Controls ( <b>T</b> )	2	2	3
LH 240	Landscape Management ( <b>T</b> )	2	3	3
LH 255	Golf Course and Athletic Field Management ( <b>T</b> )	2	3	3

XXX XXX	Arts/ Humanities Elective or Social/ Behavioral Science Elective ( <b>G</b> )	3	0	3
<b>Semester 6</b>				
LH X9X	Cooperative Education Elective 2: Landscape Horticulture ( <b>T</b> )	1	40	2
<b>Total Credits:</b>		50	120	67

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Computer Elective

LH 155	Computer-Aided Landscape Design	3
IM 111	Computer Applications	3
IM 120	Electronic Spreadsheets: Microsoft Excel	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Management/Marketing Elective

MGT 101	Principles of Management	3
MGT 105	Human Resource Management	3
MGT 120	Entrepreneurship	3
MGT 130	Project Management	3
MKT 101	Principles of Marketing	3
MKT 105	Marketing and Customer Relations	3
MKT 130	Professional Selling	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3
MAT 115	Pre-Statistics	3
MAT 125	Algebra and Trigonometry	4

### Arts/Humanities Elective or Social/Behavioral Science Elective

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

or, any Transfer Module course from ECO, GEO, HST, LBR, POL, PSY, SOC, or SPN 101

### Cooperative Education Electives (4 credit hours required)

LH 191	Part-Time Cooperative Education 1: Landscape Horticulture	1
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LH 192	Part-Time Cooperative Education 2: Landscape Horticulture	1
LH 193	Part-Time Cooperative Education 3: Landscape Horticulture	1
LH 194	Part-Time Cooperative Education 4: Landscape Horticulture	1
LH 291	Full-Time Cooperative Education 1: Landscape Horticulture	2
LH 292	Full-Time Cooperative Education 2: Landscape Horticulture	2

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- TURF graduates can recognize, evaluate, and solve problems in landscapes.
- TURF graduates can identify and safely operate a variety of equipment and tools commonly used in the industry.
- TURF graduates can identify and analyze conditions of turf, identify specific problems, recommend control measures, and implement controls.

## Faculty

### Program Chair

Samuel (Mark) Deacon, MC  
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### Co-op Coordinator

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## Advisors

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## LH Courses

### LH 105 Horticulture Occupations

**1 Credit. 1 Lecture Hour. 1 Lab Hour.**

An introduction to horticulture occupations in the Cincinnati region. Topics include: job levels, working conditions, abilities needed, and benefits within the horticulture industries; resume preparation; interviewing; and business etiquette for the landscaping industry. Prerequisites: None

### LH 110 Horticulture Science

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on plant classification, structures, physiology, and development, and the environmental conditions that affect plant growth.

Prerequisites: ENG 085 or appropriate placement

### LH 115 Floral Design and Marketing

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts and techniques of floral design. Topics include: floral design styles, pricing, shop management, and specialized work such as weddings and funerals. Students must attend off-campus field trips.

Prerequisites: None

### LH 120 Soil Science and Plant Nutrition

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on physical, chemical, and biological properties of soils. Topics include: soil formation; soil conservation; and properties of soils that affect plant growth, development, and health.

Prerequisites: ENG 085 or appropriate placement

### LH 125 Turfgrass Management

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and practices for management of turfgrass installations. Topics include: turfgrass identification, growth, uses, and establishment; and pest control. Students must attend field trips.

Prerequisites: MAT 093 or appropriate placement

### LH 130 Woody Plant Materials

**3 Credits. 1 Lecture Hour. 5 Lab Hours.**

A course on woody plants grown by nurseries and found in the landscape and in naturalized settings of Ohio. Topics include: identifying the features and landscape uses of deciduous and evergreen trees, shrubs, and vines. Students must attend weekly plant walk field trips.

Prerequisites: ENG 085 or appropriate placement

### LH 135 Herbaceous Plant Materials

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on annual, biennial, and non-woody plants commonly used in landscapes of the greater Cincinnati region. Topics include: identification, culture, and design uses of plants for landscapes.

Prerequisites: ENG 085 or appropriate placement

**LH 140 Landscape Operations****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on equipment used for landscape activities such as planting trees and shrubs and maintaining landscaped areas. Topics include: job safety; and operations of equipment such as loaders, backhoes, tractors, and commercial mowers. Students must attend field trips.  
Prerequisites: None

**LH 145 Horticulture Mechanics****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to the mechanical systems used in the landscape industry. Topics include small engine theory, operation, and repair; gasoline and diesel fuels; hydraulic power systems; and traditional and alternative electrical systems.  
Prerequisites: None

**LH 151 Landscape Design 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on landscape development for residential and small commercial sites. Topics include: the design process, proper design development, and graphics and lettering. Students must provide their own drawing tools and must attend field trips.  
Prerequisites: ENG 085 or appropriate placement

**LH 155 Computer-Aided Landscape Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for using computers in landscape design and contracting. Topics include: generating plot plans, planting plans, and presentation drawings.  
Prerequisites: ENG 085 or appropriate placement

**LH 160 Irrigation Design, Installation, and Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on designing, installing, and managing residential and commercial irrigation systems. Students must participate in field work.  
Prerequisites: LH 125 and LH 151 (minimum grade C for both)

**LH 165 Landscape Construction****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques and use of materials for constructing and installing landscape planting features and structures such as gardens, terraces, walls, fences, mounds, ponds, irrigation, and outdoor lighting. Students must participate in field work.  
Prerequisites: LH 151 (minimum grade C)

**LH 170 From Field to Kitchen****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on edible plants, herbs, and spices and their use in culinary preparations.  
Prerequisites: None  
Instructor Consent Required

**LH 175 Interior Plantscaping****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the use of foliage and blooming plants to enhance interior areas of buildings. Topics include: classification, culture, and design applications.  
Prerequisites: ENG 085 or appropriate placement

**LH 191 Part-Time Cooperative Education 1: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 190 (minimum grade C)

**LH 192 Part-Time Cooperative Education 2: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LH 191

**LH 193 Part-Time Cooperative Education 3: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LH 192

**LH 194 Part-Time Cooperative Education 4: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LH 194

**LH 195 Part-Time Cooperative Education 5: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LH 195

**LH 196 Part-Time Cooperative Education 6: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LH 195

**LH 205 Landscape Pests and Controls****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on identification, diagnosis, and control of common insect, disease, and weed pests in the landscape industry. Topics include: integrated pest management/plant health care principles, and Ohio Department of Agriculture Commercial CORE and Category 6d exams. Prerequisites: LH 110 and LH 130 and LH 135 (minimum grade C for all)

**LH 210 Turfgrass Pests and Controls****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on identification, diagnosis, and control of common insect, disease, and weed pests of turfgrasses. Topics include: integrated pest management/plant health care principles, and Ohio Department of Agriculture Commercial CORE and Category 8 exams. Students must attend field trips.

Prerequisites: LH 110 and LH 125 (minimum grade C for both)

**LH 215 Arboriculture****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on principles and techniques of the commercial arboriculture business. Topics include: trees and the environment; protection, diagnosis, and treatment of tree health problems; techniques for pruning, removal, and climbing; and job safety. Students must attend field trips.

Prerequisites: LH 110 (minimum grade C)

**LH 225 Greenhouse Management and Plant Production****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and practices for greenhouse management and plant production. Topics include: greenhouse structures and maintenance, and managing environmental conditions vital to plant growth. Students must attend field trips.

Prerequisites: LH 110 and LH 135 (minimum grade C for both)

**LH 230 Landscape Solutions to Stormwater Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using landscaping to manage stormwater and water runoff. Topics include: the ecology, design, installation, and maintenance of water management and retention systems including bioswales, green roofs, and rain gardens. Students must attend field trips.

Prerequisites: LH 110 and LH 120 and LH 151 (minimum grade C for all)

**LH 240 Landscape Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on principles and practices of management used in the landscape industry. Topics include: seasonal planning for landscape maintenance, contracts and specifications, cost estimating, business management, and personnel management. Students must attend field trips.

Prerequisites: LH 110 and LH 120 and LH 130 (minimum grade C for all), and MAT 093 or appropriate placement

**LH 245 Plants for Sustainable Landscapes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on identification, culture, and uses of nursery-grown woody and herbaceous plants in Cincinnati-area sustainable landscapes. Topics include: using native species appropriately, and controlling invasive species. Students must attend weekly field trips.

Prerequisites: LH 130 and LH 135 and LH 151 (minimum grade C for all)

**LH 252 Landscape Design 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on application of design theory to develop creative solutions to landscape problems. Topics include: graphic skills such as section, elevation, isometric and perspective techniques; construction plans; interaction with clients; and sales presentations. Students must attend field trips.

Prerequisites: LH 130 and LH 140 and LH 151 (minimum grade C for all)

**LH 255 Golf Course and Athletic Field Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for golf course and athletic field management. Topics include: layout and construction, course/field management systems, maintenance, budgeting, record-keeping, golf-specific turf care, turfgrass selection and enhancement, practices for playability enhancement, field set-up, and renovation of existing fields. Students must attend field trips.

Prerequisites: LH 125 (minimum grade C) and instructor consent  
Instructor Consent Required

**LH 265 Landscape Grading, Drainage, and Surveying****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on landscape site preparation. Topics include: site assessment, establishing grades, soil conservation and improvement, surface and sub-surface drain systems, cut-and-fill calculations, and safe operation of equipment. Students must attend field trips.

Prerequisites: LH 151 (minimum grade C) and MAT 093 or appropriate placement

**LH 290 Sustainable Landscape Design Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students complete a project while examining the landscape designer's role in restoring and protecting habitats. Topics include: site choice, stormwater controls, xeriscaping, criteria for LEED and other certifications, and techniques for landscape features such as green roofs and rain gardens. Students must attend field trips.

Prerequisites: LH 151 and LH 155 and LH 230 and LH 245 (minimum grade C for all)

**LH 291 Full-Time Cooperative Education 1: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**LH 292 Full-Time Cooperative Education 2: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 291

**LH 293 Full-Time Cooperative Education 3: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 292

**MGT Courses****MGT 101 Principles of Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the history and fundamental concepts of modern management. Topics include: planning, leading, organizing and controlling; global and domestic environments for management; change management; quality management; team management; and communication skills for managers.

Prerequisites: ENG 080 or appropriate placement

Ohio Transfer Assurance Guide Approved

**MGT 105 Human Resource Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of the human resource department and the supervisor's role in various human resource functions. Topics include: recruiting, choosing, and training employees; compensation and benefits; performance evaluation; disciplinary actions; and workplace rights and responsibilities.

Prerequisites: None

**MGT 120 Entrepreneurship****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on starting and growing new businesses. Topics include: identifying new venture opportunities, evaluating the viability of a new venture, and understanding skills needed for successful business operations. Students prepare a business plan for potential investor review.

Prerequisites: ACC 101

**MGT 125 Business Ethics****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of business ethics and moral reasoning. Topics include: corporate disclosure, discrimination, whistle blowing, computer crime, and international ethics.

Prerequisites: None

**MGT 130 Project Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to project management in various industries. Topics include: planning and prioritizing projects, obtaining project approvals, working with diverse teams, managing all elements of projects, evaluating project results, and using Microsoft Project software.

Prerequisites: None

**MGT 131 Project Management Professional Certification Review****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of project management in various industries. Topics include: planning and prioritizing projects, obtaining project approvals, working with diverse teams, managing all elements of projects, evaluating project results, and using Microsoft Project software. This course satisfies the education requirement to sit for the PMP (Project Management Professional) exam.

Prerequisites: None

**MGT 140 Quality Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques of quality management and continuous improvement for manufacturing and service organizations. Topics include: establishing a customer driven organization, and using effective feedback and control systems.

Prerequisites: MGT 100 or MGT 101

**MGT 191 Part-Time Cooperative Education 1: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**MGT 192 Part-Time Cooperative Education 2: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 191

**MGT 193 Part-Time Cooperative Education 3: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 192

**MGT 194 Part-Time Cooperative Education 4: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 193

**MGT 195 Part-Time Cooperative Education 5: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 194

**MGT 196 Part-Time Cooperative Education 6: Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 195

**MGT 220 Leadership****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of successful integrative leaders in organizations. Topics include: historical and contemporary approaches to leadership, leadership for change, team leadership, servant leadership, and communication skills for leaders.

Prerequisites: MGT 100 or MGT 101

**MGT 290 Business Management Capstone****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course that examines the entire scope of management, including functional and decision making areas such as production, marketing, finance, and accounting.

Prerequisites: MGT 101 and MKT 101 and ACC 101

**MGT 291 Full-Time Cooperative Education 1: Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**MGT 292 Full-Time Cooperative Education 2: Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 291

**MGT 293 Full-Time Cooperative Education 3: Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 292

## Pre-Business Administration (PBA)

### Pre-Business Administration (PBA)

The Pre-Business Administration program provides students with the academic foundation needed for transfer to a bachelor's degree program with a business-related major, such as business administration, accounting, finance, management, or marketing.

Students earn an Associate of Arts degree and are well-prepared to begin their junior year in a bachelor's degree program at the four-year institution of their choice.

Students must consult with their advisor before choosing electives, to ensure that elective courses meet the requirements of the institution where the student will complete their bachelor's degree.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Pre-Business Administration (PBA)

Semester 1		Lec	Lat	Credits
ACC 101	Financial Accounting	2	2	3
ENG 101	English Composition 1	3	0	3
LAW 101	Business Law	3	0	3
FYE 1XX	First Year Experience Elective	1	0	1
XXX XXX	Directed Elective 1	3	0	3
Semester 2				
ACC 102	Managerial Accounting	2	2	3
BUS 190	Professional Practices	1	0	1
ECO 105	Principles of Microeconomics	3	0	3
ENG 10X	English Composition Elective	3	0	3
MAT XXX	Mathematics Elective	3	0	3
XXX XXX	Directed Elective 2	3	0	3
Semester 3				
PBA X9X	Cooperative Education 1: Pre-Business Administration	1	40	2
Semester 4				
MKT 101	Principles of Marketing	3	0	3
IM XXX	Computer Elective	0	4	2
XXX XXX	Arts/ Humanities Elective 1	3	0	3
XXX XXX	Natural/ Physical Science Elective 1	2	2	3
XXX XXX	Transfer Module Elective 1	3	0	3
Semester 5				
COMM 110	Public Speaking	3	0	3
ECO 110	Principles of Macroeconomics	3	0	3

XXX XXX Arts/ Humanities Elective 2	3	0	3
XXX XXX Natural/ Physical Science Elective 2	2	2	3
XXX XXX Transfer Module Elective 2	3	0	3
<b>Total Credits:</b>	<b>53</b>	<b>52</b>	<b>60</b>

## Electives

Students must consult with an advisor before selecting elective courses

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Mathematics Elective

MAT 105	Quantitative Reasoning	3
MAT 131	Statistics 1	3
MAT 132	Statistics 2	3
MAT 151	College Algebra	4
MAT 152	Trigonometry	4
MAT 153	Pre-Calculus	6
MAT 215	Business Calculus	6
MAT 251	Calculus 1	5
MAT 252	Calculus 2	5
MAT 253	Calculus 3	5

### Computer Elective (2 credit hours required)

IM 106	Introductory Electronic Word Processing: Microsoft Word	1
IM 107	Introductory Electronic Presentations: Microsoft PowerPoint	1
IM 108	Introductory Electronic Spreadsheets: Microsoft Excel	1
IM 109	Introductory Database Management: Microsoft Access	1
IM 111	Computer Applications	3
IM 120	Electronic Spreadsheets: Microsoft Excel	3
IM 140	Electronic Database Management: Microsoft Access	3
IM 200	Information Systems for Managers	3

### Arts/Humanities Electives

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

### Natural/Physical Science Electives

Any Transfer Module course from BIO, CHE, EVS, PHY, PSC

### Cooperative Education Elective (2 credit hours required)

PBA 191	Part-Time Cooperative Education 1: Pre-Business Administration	1
PBA 192	Part-Time Cooperative Education 2: Pre-Business Administration	1
PBA 193	Part-Time Cooperative Education 3: Pre-Business Administration	1
PBA 194	Part-Time Cooperative Education 4: Pre-Business Administration	1
PBA 291	Full-Time Cooperative Education 1: Pre-Business Administration	2
PBA 292	Full-Time Cooperative Education 2: Pre-Business Administration	2

### Transfer Module Electives

Any Transfer Module course (not used in another category) from ENG, COMM (except COMM 110), MAT, ART, MUS, THE, LIT, PHI, REL, GEO, HST, LBR, POL, ECO, PSY, SOC, BIO, CHE, EVS, PHY, PSC

### Directed Electives

Any Transfer Module course (not used in another category) from ENG, COMM, MAT, ART, MUS, THE, LIT, PHI, REL, GEO, HST, LBR, POL, ECO, PSY, SOC, BIO, CHE, EVS, PHY, PSC

ENG 131	Creative Writing: Poetry	3
FIN 100	Personal Finance	3
FRN 101	Elementary French 1	4
FRN 102	Elementary French 2	4
FRN 201	Intermediate French 1	4
FRN 202	Intermediate French 2	4
ASL 101	Beginning American Sign Language 1	3
ASL 102	Beginning American Sign Language 2	3
ASL 201	Intermediate American Sign Language 1	3
ASL 202	Intermediate American Sign Language 2	3
LBR 105	Introduction to Labor and Employee Relations	3
MGT 101	Principles of Management	3
MGT 220	Leadership	3
SPN 101	Elementary Spanish 1	4
SPN 102	Elementary Spanish 2	4
SPN 201	Intermediate Spanish 1	4
SPN 202	Intermediate Spanish 2	4

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Pre-Business Administration (PBA)

- Prepare and use financial information about business organizations to support decision making.



- Manage business information using appropriate software.
- Demonstrate effective business communication skills.
- Demonstrate understanding of legal and ethical issues in a business environment.
- Identify, classify, and demonstrate management activities.
- Demonstrate knowledge of marketing theory and techniques.
- Apply economic reasoning to the analysis of selected contemporary economic problems.
- Demonstrate employability skills in a business environment.

#### **General Education Learning Outcomes (derived from the Ohio Transfer Module Learning Outcomes)**

- Communicate effectively with diverse audiences.
- Evaluate arguments in a logical fashion.
- Employ the methods of inquiry characteristic of the natural sciences, social sciences, and the arts and humanities.
- Acquire an understanding of our global and diverse culture and society.
- Compute and analyze quantitative data using mathematical and logical methods to solve problems.
- Exhibit self-awareness and self-management skills necessary to succeed in increasingly challenging academic environments.

## **Faculty**

### **Program Chair**

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## **Courses**

### **PBA 191 Part-Time Cooperative Education 1: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190

### **PBA 192 Part-Time Cooperative Education 2: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PBA 191

### **PBA 193 Part-Time Cooperative Education 3: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PBA 192

### **PBA 194 Part-Time Cooperative Education 4: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PBA 193

### **PBA 195 Part-Time Cooperative Education 5: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PBA 194

### **PBA 196 Part-Time Cooperative Education 6: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PBA 195

### **PBA 291 Full-Time Cooperative Education 1: Pre-Business Administration**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190

**PBA 292 Full-Time Cooperative Education 2: Pre-Business Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PBA 291

**PBA 293 Full-Time Cooperative Education 3: Pre-Business Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PBA 292

## Supply Chain Management (SCM & SCMC)

### Supply Chain Management (SCM)

Students in the Supply Chain Management associate's degree program gain the knowledge and skills needed to oversee interconnected businesses by coordinating activities among suppliers, manufacturing, warehousing operations, shipping, and customers. Students also develop understanding of processes for moving, tracking, and distributing raw or in-process materials as well as finished goods.

Students select elective courses from one of two tracks:

- The Operations track focuses on business decisions in Supply Chain Management.
- The Material Handling Technology track focuses on automation and technological advances in the industry.

Graduates earn an Associate of Applied Business degree and are prepared for entry-level employment in areas such as inventory management, material handling, manufacturing resource planning, warehousing, logistics, traffic and transportation, or procurement.

Graduates also are prepared to take the Level One Supply Chain Professional certification exam offered by the Council of Supply Chain Management Professionals.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Supply Chain Management Certificate (SCMC)

The Supply Chain Management Certificate prepares students for employment in several key areas of the supply chain field, including purchasing, warehousing, transportation, manufacturing, and order fulfillment.

Graduates of the certificate program also are prepared to take the Level One Supply Chain Professional certification exam offered by the Council of Supply Chain Management Professionals.

For more information, please contact the Business Technologies Division at (513) 569-1620.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Supply Chain Management (SCM)

Semester 1		Lec	Lat	Credits
FYE 1XX	First Year Experience Elective (B)	1	0	1
XXX XXX	Computer Elective (B)	3	0	3
XXX XXX	Track Elective 1 (B)	3	0	3
MAT 1XX	Mathematics Elective (G)	3	0	3
CIT 105	OSHA 10 General Industry Safety (T)	1	0	1
SCM 105	Principles of Supply Chain Management (B)	3	0	3
Semester 2				
ACC 101	Financial Accounting (B)	2	2	3
BUS 190	Professional Practices (B)	1	0	1
XXX XXX	Track Elective 2 (T)	3	0	3
ENG 101	English Composition 1 (G)	3	0	3
MGT 101	Principles of Management (B)	3	0	3
SCM 110	Warehousing and Distribution (T)	2	2	3
Semester 3				
SCM X9X	Cooperative Education Elective 1: Supply Chain Management (T)	1	40	2
Semester 4				
ENG XXX	English Elective (G)	3	0	3
XXX XXX	Track Elective 3 (T)	0	3	3
IT 150	Logistics and Distribution Technology (T)	2	2	3
SCM 120	Transportation Systems (T)	3	0	3

MGT 130	Project Management ( T)	3	0	3
<b>Semester 5</b>				
XXX XXX	Arts/ Humanities Elective (G)	3	0	3
XXX XXX	Track Elective 4 (T)	3	0	3
SCM 205	Inventory Management and Control ( T)	3	0	3
SCM 290	Supply Chain Management Capstone ( T)	2	2	3
XXX XXX	Social/ Behavioral Science Elective (G)	3	0	3
<b>Semester 6</b>				
SCM X9X	Cooperative Education Elective 2: Supply Chain Management (T)	1	40	2
Total Credits:		55	91	64

**Electives**

**First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**Computer Elective**

IM 200	Information Systems for Managers	3
IT 105	Information Technology Concepts	3

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 105	English Composition 2: Business Communication	3

**Mathematics Elective**

MAT 105	Quantitative Reasoning	3
MAT 115	Pre-Statistics	3
MAT 125	Algebra and Trigonometry	4
MAT 131	Statistics 1	3
MAT 151	College Algebra	4

**Arts/Humanities Elective**

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130	3
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**Social/Behavioral Science Elective**

Any Transfer Module course from ECO, GEO, HST, LBR, POL, PSY, SOC	3
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**Cooperative Education Electives (4 credit hours required)**

SCM 191	Part-Time Cooperative Education 1: Supply Chain Management	1
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SCM 192	Part-Time Cooperative Education 2: Supply Chain Management	1
SCM 193	Part-Time Cooperative Education 3: Supply Chain Management	1
SCM 194	Part-Time Cooperative Education 4: Supply Chain Management	1
SCM 291	Full-Time Cooperative Education 1: Supply Chain Management	2
SCM 292	Full-Time Cooperative Education 2: Supply Chain Management	2

**Track Electives (Meet with an advisor to choose a track and corresponding electives)**

**Operations Track Electives**

Must take all three courses listed below

LAW 101	Business Law	3
SCM 115	Manufacturing Planning in Supply Chain Management	3
SCM 210	Procurement Management	3

Must take one of the following courses:

ACC 102	Managerial Accounting	3
CET 115	Architectural Drafting and Computer Aided Design	4
EMET 210	Energy Efficiency and Audits	3
EVT 187	Materials Transportation Safety and Security	2
MGT 130	Project Management	3

**Material Handling Technology Track Electives**

EET 101	Electronic Fundamentals 1	3
EMET 150	Introduction to Controls and Robotics	2
MHT 100	Introduction to Materials Handling and L	3
MHT 200	Automation Systems	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Supply Chain Management Certificate (SCMC)**

Semester 1		Lec	Lat	Credits
SCM 105	Principles of Supply Chain Management	3	0	3
SCM 110	Warehousing and Distribution	2	2	3
Semester 2				

SCM 120	Transportation Systems	3	0	3
SCM 115	Manufacturing Planning in Supply Chain Management	3	0	3
SCM 205	Inventory Management and Control	3	0	3
<b>Semester 3</b>				
SCM 210	Procurement Management	3	0	3
XXX XXX	Technical Elective	3	0	3
Total Credits:		20	2	21

## Electives

### Technical Elective

IT 150	Logistics and Distribution Technology	3
MGT 140	Quality Management	3
SCM 290	Supply Chain Management Capstone *	3
CDL 110	Commercial Driver License Training	5

\* Students cannot take SCM 290 and SCM 210 in the same semester.

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Supply Chain Management (SCM)

- Demonstrate the major functions of supply chain management: planning, acquisition, flow, and distribution of goods and services.
- Differentiate logistics and supply chain management.
- Describe alternative ways to organize for supply chain management.
- Describe methods of inventory planning.
- Utilize critical thinking in addressing issues.
- Explain how technology has and continues to change logistics and supply chain management.
- Compare modes of transportation and related policies.
- Explain purchasing processes, policies, and procedures.
- Describe warehouse processes, systems, and performance measures.
- Analyze legal and ethical issues from a global awareness perspective within the supply chain management industry.
- Identify improvement opportunities throughout the operations value stream (reduction in operational waste) and develop and implement a plan for acting on these opportunities.
- Use computer simulation to model a supply chain within a cost effective inventory, facility, location, and transportation framework.
- Discuss collaboration and communication skills and leadership styles.
- Demonstrate professionalism specific to the supply chain management industry.

## Faculty

### Program Chair

Paula Kirch-Smith M.Ed., CHE  
paula.kirchsmith@cincinnatiastate.edu

### Co-op Coordinator

Brian Hooten, MAOL  
brian.hooten@cincinnatiastate.edu

### Advisor

Eimee Donbar, MA  
eimee.donbar@cincinnatiastate.edu

## Courses

### SCM 105 Principles of Supply Chain Management 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on fundamentals of supply chain management and operations. Topics include: logistics, distribution, warehousing, material handling, material flow, transportation, procurement, and tracking.  
Prerequisites: ENG 080 or appropriate placement

### SCM 110 Warehousing and Distribution 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on warehouse management and distribution skills, including OSHA General Industry Training and forklift operator safety training. Topics include: material handling equipment, information technology tools, receiving, order picking, shipping, inventory management, and storage.  
Prerequisites: None

### SCM 115 Manufacturing Planning in Supply Chain Management 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on operational frameworks, challenges, and opportunities posed by supply chain management and sustainability trends. Topics include: demand forecasting, master production planning, lean production, push and pull production systems, capacity requirements planning, and inventory management.  
Prerequisites: SCM 105

### SCM 120 Transportation Systems 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on laws, policies, and procedures related to transportation by ground, rail, air, and water. Topics include: planning, traffic management, environmental compliance, and relationships among suppliers, producers, and consumers.  
Prerequisites: None

### SCM 191 Part-Time Cooperative Education 1: Supply Chain Management 1 Credit. 1 Lecture Hour. 20 Lab Hours.

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 190 (minimum grade C)

**SCM 192 Part-Time Cooperative Education 2: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 191

**SCM 193 Part-Time Cooperative Education 3: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 192

**SCM 194 Part-Time Cooperative Education 4: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 193

**SCM 195 Part-Time Cooperative Education 5: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 194

**SCM 196 Part-Time Cooperative Education 6: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 195

**SCM 205 Inventory Management and Control****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on inventory management and movement of materials. Topics include: independent and dependent demand methods, material management, manufacturing principles, predicting demand, just-in-time operations, quality control, and tracking and logistics technologies.

Prerequisites: SCM 105

**SCM 210 Procurement Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on procurement principles and practices. Topics include: strategic planning, quality control, purchasing laws and ethics, cost estimating, contract management, inventory control, and risk management.

Prerequisites: SCM 105

**SCM 290 Supply Chain Management Capstone****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

Students use case studies and simulations to examine the entire scope of Supply Chain Management, including functional and decision-making areas such as distribution, transportation, inventory management, procurement, and logistics.

Prerequisites: SCM 210

**SCM 291 Full-Time Cooperative Education 1: Supply Chain Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**SCM 292 Full-Time Cooperative Education 2: Supply Chain Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 291

**SCM 293 Full-Time Cooperative Education 3: Supply Chain Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 292

**SCM 294 Internship 1: Supply Chain Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190

**SCM 295 Internship 2: Supply Chain Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 294

## Engineering and Information Technologies Division

Division Office: Main Building Room 210, Clifton Campus

**Division Phone Number:** (513) 569-1743

The Engineering and Information Technologies Division provides Cincinnati State's associate's degree programs and majors in engineering technologies, information technologies, aviation maintenance, and multimedia fields. The division offers a number of associate's degree and certificate programs that prepare students for a career in a variety of technical fields or a possible pathway to a bachelor's degree.

The division also offers a Bachelor of Applied Science degree in Land Surveying.

Cincinnati State has been recognized nationally as one of the top schools in Ohio for engineering-related associate's degrees.

The mission of the Engineering and Information Technologies Division is to equip students with the technical skills needed to succeed and prosper in the workforce, while also providing the foundation for continuing educational growth.

The academic programs within the Engineering and Information Technologies Division are organized into the following departments:

- Aviation Maintenance Technologies (p. 97)
- Chemical and Environmental Engineering Technologies (p. 104)
- Civil Engineering Technologies (p. 129)
- Computer Programming and Database Management (p. 147)
- Electrical Engineering Technologies (p. 164)
- Electro-Mechanical Engineering Technologies (p. 175)
- Land Surveying Bachelor's Degree (p. 191)
- Mechanical Engineering Technologies (p. 198)
- Multimedia Information Design (p. 206)
- Networking and Support Systems (p. 221)
- Pre-Engineering (p. 232)
- Welding (p. 234)

All of the degree programs offered by the Engineering and Information Technologies Division feature:

- Faculty with professional experience in their areas of instruction, who also are advisors to students throughout their college experience.
- Technical coursework that blends basic theory (including skills in mathematics and science, as applicable) with extensive hands-on laboratory practice.
- Foundation academic skills courses in written communication; arts and humanities; and natural, behavioral, or social sciences.
- Ease of transfer to a number of bachelor's degree programs.
- Cooperative education work experience. The close tie with industry created by the cooperative education component ensures all programs remain technically current, and provides students with practical workplace knowledge and experience prior to graduation.
- The Civil Engineering Technology program has earned accreditation through the Engineering Technology Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21201-4012. Phone (410) 347-7700. The Civil Engineering Technology Construction Management Major is also accredited by the American Council for Construction Education (ACCE), 1717 North Loop 1604 East, Suite 320, San Antonio, TX 78232-1570. Phone (210) 495-6161.

- The Aviation Maintenance Technology associate's degree program and related certificate programs are approved by the Federal Aviation Administration. Technical coursework is offered exclusively at the Cincinnati State West campus in Harrison, Ohio.

The Engineering and Information Technologies Division collaborates with the College's Workforce Development Center in offering the Applied Technology Specialist degree, which allows students with military experience, Career Center certificates, or technical work history to earn college credit for past training or experience.

The Engineering and Information Technologies Division also offers a number of certificate programs that address specific technical skills. Certificates have fewer course requirements than an associate's degree, and typically can be completed in a year or less.

## Cooperative Education

The cooperative education experience is a cornerstone of the educational process in the Engineering and Information Technologies Division.

All students enrolled in associate's or bachelor's degree programs are required to participate in cooperative education. Most students complete this requirement through on-site cooperative education assignments. Students may earn credit through full-time or part-time work assignments, depending on job availability.

In a few academic programs where competition for entry-level assignments is particularly strong, students may have opportunities to meet requirements for experiential learning by participating in unpaid internships.

Students may also be able to substitute appropriate academic courses or previous related work experience for cooperative education employment, with prior approval from the appropriate co-op coordinator.

For eligibility requirements, co-op registration policies, and other issues related to cooperative education, please refer to the Cooperative Education Program (<http://catalog.cincinnati.edu/academicpoliciesandprocedures/cooperativeeducationprogrampolicies/>) section of this catalog.

## College Orientation

To set the stage for success in the college experience, degree-seeking students are required to complete a college First Year Experience (FYE) course within the first 12 credit hours taken at Cincinnati State.

## Entrance Competencies

To ensure success in academic studies in Engineering and Information Technologies, entering students must meet established academic levels in mathematics, written communication skills, and reading comprehension. As part of the admission process, entering students meet with an academic advisor who may identify academic foundations-level classes to help the student reach needed levels. Preparatory classes are available year-round, and are designed to increase students' opportunities for success in their courses.

Students entering most academic programs in Engineering and Information Technologies must demonstrate competence with commonly-used software applications and with basic internet operations. Students may be asked to demonstrate these competencies through standardized skills assessment tests or by

completing prerequisite courses if necessary. Program advisors assist students in determining whether they meet minimum competencies.

Full-time students who follow the published sequence of courses can complete an associate's degree program in two years.

## Transfer to Baccalaureate Programs

The Engineering and Information Technologies Division offers a Pre-Engineering program. Graduates earn an Associate of Science degree and are prepared to enter a baccalaureate program in an engineering science field.

Many of the Associate of Applied Science degree programs offered by the Engineering and Information Technologies Division have established articulation agreements to ease transfer of credits earned at Cincinnati State to baccalaureate programs at various colleges and universities. Agreements are in place with the University of Cincinnati, Wright State University, Embry-Riddle Aeronautical University, Miami University, Northern Kentucky University, and Wilmington College, among others. These agreements vary in content. Interested students should meet with their program advisor as early as possible to review the details of possible transfer arrangements.

## Transfer Module

The Ohio Department of Higher Education developed the Ohio Transfer Module to facilitate transfer of credits from one Ohio public college or university to another. The transfer module contains 36 to 40 semester hours of course credits in the areas of communication, mathematics, arts and humanities, social and behavioral sciences, and natural and physical sciences. A transfer module completed at one college or university automatically meets the requirements for the transfer module at another college or university once the student is admitted. For additional information, see the State of Ohio Policy for Institutional Transfer (<http://catalog.cincinnati.state.edu/admissioninformation/institutionaltransfer/>) and the Transfer Module (<http://catalog.cincinnati.state.edu/academicdivisionsanddegreeampcertificateprograms/transfermodule/>) sections of this Catalog.

Associate's degree programs in the Center for Innovative Technologies contain in their curricula many of the required courses for the Cincinnati State Transfer Module. The Pre-Engineering degree contains the entire transfer module. Students who wish to complete the transfer module should schedule the additional courses at their convenience.

Students who transfer to an Ohio public university for baccalaureate degrees will find that the Cincinnati State Associate of Applied Science degree, combined with a transfer module showing grades of C or higher, receives preferential consideration at the receiving institution. Additionally, transfer is streamlined for graduates of some Center for Innovative Technologies programs by the articulation agreements described above.

# Applied Technology Specialist (ATSP)

## Applied Technology Specialist (ATSP)

In collaboration with Cincinnati State's Workforce Development Center, the Engineering and Information Technologies Division offers the Applied Technology Specialist degree.

Students who complete all program requirements earn an Associate of Technical Studies degree.

The Applied Technology Specialist degree is designed for individuals with significant experience and past training in technical fields, such as those in the trades and military veterans. Students may receive up to 27 credit hours-- nearly half of the degree requirements-- for related education, specialized training, or past work experience.

Students must meet with their advisor to determine how much credit will be awarded for past education or experience, and to select courses needed to complete the degree, including elective courses from engineering technologies or information technologies fields.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

## Applied Technology Specialist (ATSP)

Semester 1		Lec	Lat	Credits
CIT 150	Applied Technology Studies: Advanced Sta ( T )	1-27	0	27
ENG 101	English Composition 1 ( G )	3	0	3
FYE XXX	First Year Experience Elective ( B )	1	0	1
MAT XXX	Mathematics Elective ( G )	2	2	3
XXX XXX	Humanities Elective ( G )	3	0	3
XXX XXX	Business Elective 1 ( B )	3	0	3
XXX XXX	Computer Skills Elective ( B )	2	2	2
Semester 2				
COMM 110	Public Speaking ( B )	3	0	3
XXX XXX	Business Elective 2 ( B )	2	2	3

XXX XXX Social Science Elective (G)	3	0	3
XXX XXX Engineering Technology Elective 1 (B)	2	2	3
XXX XXX Engineering Technology Elective 2 (T)	2	2	3
ENG 10X English Composition Elective (G)	3	0	3
Total Credits:	30-56	10	60

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Mathematics Elective

MAT 121		
MAT 125	Algebra and Trigonometry	4
MAT 131	Statistics 1	3
MAT 151	College Algebra	4
MAT 251	Calculus 1	5

### Humanities Elective

Any ART, CULT, FRN, LIT, MUS, PHI, REL, SPN, THE		
COMM 130	Introduction to Film Studies	3

### Business Electives

ACC 101	Financial Accounting	3
MGT 101	Principles of Management	3
MGT 125	Business Ethics	3
MGT 130	Project Management	3
MGT 140	Quality Management	3
MKT 105	Marketing and Customer Relations	3
MKT 110		3

### Computer Skills Elective

IM 111	Computer Applications	3
IM 112		3
IM 120	Electronic Spreadsheets: Microsoft Excel	3
IM 130	Electronic Word Processing: Microsoft Word	3
IM 140	Electronic Database Management: Microsoft Access	3
IM 150	Electronic Presentations: Microsoft PowerPoint	3
IM 170	Electronic Project Management: Microsoft Project	3
BMT 151		4
CET 100	Introduction to Civil Engineering Technology	3
EMET 140		2

EVS 110	Environmental Science: Conservation and Cleanup	4
MET 100	Introduction to Mechanical Engineering Technology	2
<b>Social Sciences Elective</b>		<b>3</b>
Any CRJ, ECO, GEO, HST, LBR, POL, PSY, SOC		
<b>Engineering Technology Electives<sup>1</sup></b>		<b>6</b>
Any AMT, BMT, CET, EET, EMET, CMT, CSA, EVT, EVS, IT, MET, NETC, PSET, SET		
<b>English Composition Elective</b>		
ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

<sup>1</sup> Program Chair consent required

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Applied Technology Specialist (ATSP)

- The student will be able to communicate as an individual.
- The student will be able to apply oral skills
- The student will be able to apply written skills
- The student will demonstrate computer skills
- The student will demonstrate mathematical skills
- The student will demonstrate an ability to complete a Humanities course
- The student will demonstrate an ability to complete a Social Science course
- The student will demonstrate an ability to complete a Business course

## Faculty

### Program Chair/Advisor

Lawrence (Larry) Feist, BS  
lawrence.feist@cincinnatiastate.edu



## Courses

### **CIT 100 Introduction to Engineering and Engineering Technologies**

**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course that prepares students for success in Engineering fields and Engineering Technologies fields including Biomedical, Civil, Environmental, Electrical, Industrial, and Mechanical. Topics include: investigating academic and career pathways; and building skills in measurement, data collection and graphing, problem solving, research, and basic computation.

Prerequisites: MAT 093 or appropriate placement

### **CIT 105 OSHA 10 General Industry Safety**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A review of OSHA requirements governing electrical safe work practices at manufacturing and service facilities. Topics include: requirements outlined in OSHA 29 CFR Part 1910 and NFPA Standard 70E. Students who complete the course successfully receive OSHA 10 certification.

Prerequisites: None

### **CIT 110 Introduction to Information Technologies**

**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course that prepares students for success in Information Technology fields. Topics include: investigating career pathways; and building skills in problem solving, research, basic computation, and other foundational concepts.

Prerequisites: None

### **CIT 120 Introductory Mathematics for Engineering Applications**

**5 Credits. 4 Lecture Hours. 2 Lab Hours.**

A course on math used within the context of engineering applications. Topics include: algebraic manipulations of engineering equations, trigonometry, vectors and complex numbers, sinusoids, systems of equations, differentiation, integration, and differential equations.

Prerequisites: ENG 085 and MAT 126 or MAT 152 or MAT 153 or appropriate placements

### **CIT 130 Engineering Programming with MATLAB**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on foundation skills in computer programming, using the MATLAB language and environment, for students in engineering technologies majors who have no programming experience. Topics include: variables, arrays, conditional statements, loops, functions, plots, and data acquisition and analysis.

Prerequisites: MAT 125 or appropriate placement

### **CIT 150 Applied Technology Studies: Advanced Sta**

**1-27 Credits. 1-27 Lecture Hour. 0 Lab Hour.**

Students complete courses or training programs or earn certifications that develop expertise in engineering technologies fields, and may receive up to 27 credit hours for these programs/certifications.

Prerequisites: Program Chair consent

Instructor Consent Required

### **CIT 190 Career Preparation: Engineering and Information Technologies**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on career planning and exploration for students in Engineering Technologies and Information Technologies fields. Topics include: self assessment, career research, resume development, interview skills, job search strategies, and cooperative education policies and procedures.

Prerequisites: ENG 085 and MAT 124, or appropriate placements

### **CIT 250 Engineering Community**

**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

Students participate in instructor-facilitated community service experiences to engage high school students and teachers in STEM (Science/Technology/Engineering/Mathematics) classroom activities that address applied engineering concepts.

Prerequisites: Instructor consent

Instructor Consent Required

## Aviation Maintenance Technologies

The Aviation Maintenance Technologies Department at Cincinnati State offers a Federal Aviation Administration (FAA) approved associate's degree program in **Aviation Maintenance Technology (AMT)**, as well as three certificate programs:

- Aviation Mechanics Airframe Certificate (AVAC) (p. 97)
- Aviation Mechanics Powerplant Certificate (AVPC) (p. 97)
- **Avionics Certificate (AVNC)**

Each program prepares graduates for a career maintaining and servicing aircraft components and systems.

All technical courses are conducted at the Cincinnati State airport facility, located on the Cincinnati State West Campus in Harrison, Ohio. Some non-technical courses are offered at the West Campus, or may be completed on the Clifton Campus or, in some cases, through online instruction.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

## Aviation Maintenance Technology (AMT, AVAC, & AVPC)

### Aviation Maintenance Technology (AMT)

The Aviation Maintenance Technology program provides students with the skills needed to keep aircraft operating safely and efficiently by servicing, repairing, and overhauling aircraft components and systems. Coursework covers every system of today's aircraft.

Graduates of the program earn an Associate of Applied Science degree and are prepared to take the FAA licensing tests for Airframe Mechanic and Powerplant Mechanic.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Aviation Mechanics Airframe Certificate (AVAC)

The Aviation Mechanics Airframe Certificate includes the study of aircraft structures and hydraulic, electrical, and landing gear systems.

Lab experiences include aircraft inspection, troubleshooting, and repair.

Following successful completion of the Airframe Certificate requirements, students may take Federal Aviation Administration (FAA) licensing tests. Certification requirements are subject to current FAA requirements and may change without notice.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Aviation Mechanics Powerplant Certificate (AVPC)

The Aviation Mechanics Powerplant Certificate includes the study of all types of aircraft engines (small and large piston, and jet), along with the study of engine systems and propellers. Lab experiences include inspection, troubleshooting, and repair of aircraft engines.

Following successful completion of the certificate, students may take Federal Aviation Administration (FAA) licensing tests. Certification requirements are subject to current FAA regulations and may change without notice.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Aviation Maintenance Technology (AMT)

Semester 1		Lec	LatCredits	
AMT 100	Aviation Standard Practices ( B )	4	6	6
AMT 105	Aircraft Orientation ( B )	2	5	4
AMT 110	Aircraft Electricity ( B )	3	3	4
AMT 115	Aircraft Weight and Balance ( B )	3	3	4
MAT 122	Aviation Mathematics ( G )	2	2	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
Semester 2		Lec	LatCredits	
AMT 135	Aircraft Landing Gear Systems ( T )	3	5	5
AMT 140	Airframe Electrical Systems ( T )	4	4	6
PHY 115	Aviation Maintenance Physics ( G )	3	3	4
AMT 120	Aircraft Non-Metal Structures ( T )	3	4	5
AMT 130	Aircraft Welding Processes ( T )	2	2	3
Semester 3		Lec	LatCredits	
AMT 125	Aircraft Metal Structures ( T )	3	5	5
AMT 145	Airframe Electronic Systems ( T )	2	1	2
AMT 150	Airframe Systems ( T )	3	3	4
AMT 155	Airframe Assembly and Rigging ( T )	3	4	5
AMT 160	Airframe Inspection ( T )	1	3	2

ENG 101	English Composition 1 ( G )	3	0	3
Semester 4		Lec	LatCredits	
AMT 191	Part-Time Cooperative Education 1: Aviation Maintenance Technology ( T )	1	20	1
ENG 104	English Composition 2: Technical Communication ( G )	3	0	3
AMT 201	Powerplant Maintenance 1 ( T )	4	6	6
AMT 215	Aircraft Propellers ( T )	3	3	4
Semester 5		Lec	LatCredits	
AMT 192	Part-Time Cooperative Education 2: Aviation Maintenance Technology ( T )	1	20	1
AMT 202	Powerplant Maintenance 2 ( T )	4	6	6
AMT 205	Starting and Ignition Systems ( T )	3	4	5
Semester 6		Lec	LatCredits	
AMT 193	Part-Time Cooperative Education 3: Aviation Maintenance Technology ( T )	1	20	1
AMT 203	Powerplant Maintenance 3 ( T )	4	6	6
AMT 210	Engine Fuel and Lubrication Systems ( T )	4	6	6
PHI 110	Ethics ( G )	3	0	3
Total Credits:		76	144	108

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Aviation Mechanics Airframe Certificate (AVAC)

Semester 1		Lec	LatCredits	
AMT 100	Aviation Standard Practices	4	6	6
AMT 105	Aircraft Orientation	2	5	4
AMT 110	Aircraft Electricity	3	3	4
AMT 115	Aircraft Weight and Balance	3	3	4

MAT 122	Aviation Mathematics	2	2	3
<b>Semester 2</b>				
AMT 120	Aircraft Non-Metal Structures	3	4	5
AMT 130	Aircraft Welding Processes	2	2	3
AMT 135	Aircraft Landing Gear Systems	3	5	5
AMT 140	Airframe Electrical Systems	4	4	6
PHY 115	Aviation Maintenance Physics	3	3	4
<b>Semester 3</b>				
AMT 125	Aircraft Metal Structures	3	5	5
AMT 145	Airframe Electronic Systems	2	1	2
AMT 150	Airframe Systems	3	3	4
AMT 155	Airframe Assembly and Rigging	3	4	5
AMT 160	Airframe Inspection	1	3	2
ENG 101	English Composition 1	3	0	3
Total Credits:		44	53	65

## Aviation Mechanics Powerplant Certificate (AVPC)

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
AMT 100	Aviation Standard Practices	4	6	6
AMT 105	Aircraft Orientation	2	5	4
AMT 110	Aircraft Electricity	3	3	4
AMT 115	Aircraft Weight and Balance	3	3	4
MAT 122	Aviation Mathematics	2	2	3
<b>Semester 2</b>				
AMT 201	Powerplant Maintenance 1	4	6	6
AMT 215	Aircraft Propellers	3	3	4
PHY 115	Aviation Maintenance Physics	3	3	4
<b>Semester 3</b>				
AMT 202	Powerplant Maintenance 2	4	6	6
AMT 205	Starting and Ignition Systems	3	4	5
ENG 101	English Composition 1	3	0	3
<b>Semester 4</b>				
AMT 203	Powerplant Maintenance 3	4	6	6
AMT 210	Engine Fuel and Lubrication Systems	4	6	6
Total Credits:		42	53	61

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Aviation Maintenance Technology (AMT)

- Identify, inspect, repair, and fabricate fluid lines and fittings including rigid and flexible fluid and pneumatic system components.
- Identify, inspect, install, torque, and safety-check aircraft hardware.
- Identify various types of corrosion on aircraft structure, and use proper cleaning and treatment techniques.

- Read, interpret, and analyze aircraft technical data, engineering drawings, and sketch and record repair schemes for aircraft.
- Perform ground operations and servicing of aircraft including taxiing, towing, marshaling, tie-down, engine run, and fuel and oil servicing.
- Understand mechanic privileges and limitations in accordance with Federal Aviation Regulations.
- Review aerodynamics and the application theory and concepts associated with the physics of aircraft flight.
- Understand and demonstrate concepts of electricity including troubleshooting faults and electrical installations.
- Understand and complete FAA required maintenance forms and records for aircraft maintenance.
- Understand concepts and techniques related to aircraft weight and balance, and perform weight and balance calculations and documentation.
- Utilize technical applications of algebra, geometry, and statistical analysis as necessary for employer requirements.
- Inspect, maintain, and repair metallic and non-metallic aircraft primary, secondary, and tertiary structural assemblies.
- Inspect, maintain, and repair landing gear, hydraulic and pneumatic systems, fuel systems, HVAC systems, electrical systems, fire and smoke protection systems, auxiliary power units, and oxygen systems.
- Inspect, maintain, and repair aircraft reciprocating engines, propellers, and aircraft turbine engines.

## Faculty

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Carole Womeldorf, PhD  
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## Courses

### AMT 100 Aviation Standard Practices 6 Credits. 4 Lecture Hours. 6 Lab Hours.

A course that uses FAA-approved instruction for foundation concepts and techniques in aviation maintenance. Topics include: fluid lines and fittings, materials and processes, and cleaning and corrosion control. Prerequisites: ENG 085 or appropriate placement

### AMT 105 Aircraft Orientation 4 Credits. 2 Lecture Hours. 5 Lab Hours.

A course on foundation concepts in aviation maintenance. Topics include: aircraft drawings, ground operations and servicing, mechanic privileges, and basic concepts of physics. Prerequisites: ENG 085 or appropriate placement

**AMT 110 Aircraft Electricity****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course that uses FAA-approved instruction for foundation concepts and techniques in aviation maintenance. Topics include: basic concepts of math, physics, and electricity; aircraft drawings; and maintenance forms and records.

Prerequisites: MAT 093 or appropriate placement

**AMT 115 Aircraft Weight and Balance****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on foundation concepts and techniques related to aircraft weight and balance. Topics include: maintenance forms and records, and maintenance publications.

Prerequisites: MAT 093 or appropriate placement

**AMT 120 Aircraft Non-Metal Structures****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on wood structures, aircraft covering, aircraft finishes, and inspection of bonded structures.

Prerequisites: AMT 105

**AMT 125 Aircraft Metal Structures****5 Credits. 3 Lecture Hours. 5 Lab Hours.**

A course on repairing and maintaining sheet metal structures. Topics include: selecting and installing rivets and fasteners, forming and bending sheet metal, and laying out repairs.

Prerequisites: AMT 100 and AMT 105

**AMT 130 Aircraft Welding Processes****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on welding of magnesium, titanium, aluminum, and steel in aircraft. The course does not prepare students for certification specific to welding.

Prerequisites: None

**AMT 135 Aircraft Landing Gear Systems****5 Credits. 3 Lecture Hours. 5 Lab Hours.**

A course on repairing and maintaining aircraft landing gear systems and hydraulic and pneumatic power systems.

Prerequisites: AMT 105 and MAT 122 or appropriate placement

**AMT 140 Airframe Electrical Systems****6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course on troubleshooting aircraft electrical systems and inspecting direct current generators.

Prerequisites: AMT 105 and AMT 110

**AMT 145 Airframe Electronic Systems****2 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on aircraft instrument systems and communication and navigation systems.

Prerequisites: AMT 105 and AMT 110

**AMT 150 Airframe Systems****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on systems for cabin atmosphere and control, position and warning, ice and rain control, fire protection, and aircraft fuel.

Prerequisites: AMT 100, AMT 105, and AMT 110

**AMT 155 Airframe Assembly and Rigging****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on balancing rigging, and inspecting primary and secondary flight controls of rotor and fixed wing aircraft.

Prerequisites: AMT 100, AMT 105, and MAT 122 or appropriate placement

**AMT 160 Airframe Inspection****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on inspection of airframes and sheet metal structures, repair of sheet metal structures, and conformity inspections on rotor and fixed wing aircraft.

Prerequisites: AMT 105 and AMT 115

**AMT 191 Part-Time Cooperative Education 1: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester.

Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 100

**AMT 192 Part-Time Cooperative Education 2: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester.

Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 191

**AMT 193 Part-Time Cooperative Education 3: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester.

Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 192

**AMT 194 Part-Time Cooperative Education 4: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester.

Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 193

**AMT 195 Part-Time Cooperative Education 5: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester.

Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 194

**AMT 196 Part-Time Cooperative Education 6: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 195

**AMT 201 Powerplant Maintenance 1****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in inspection and repair of radial engines; overhaul of reciprocation engines; and inspection, check, service and repair of reciprocating engines and engine systems.

Prerequisites: AMT 100 and AMT 105

**AMT 202 Powerplant Maintenance 2****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A continuation of AMT 201, using FAA-approved instruction for concepts and techniques in installation, troubleshooting, and removal of reciprocating engines; overhaul of turbine engines; and induction and engine airflow systems.

Prerequisites: AMT 201

**AMT 203 Powerplant Maintenance 3****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A continuation of AMT 202, using FAA-approved instruction in the subject areas of inspection, check, service, and repair of turbine engines and turbine engine installations; installation, troubleshooting, and removal of turbine engines; performing powerplant conformity and airworthiness inspection; engine exhaust and reverser systems; unducted fans; and auxiliary power units.

Prerequisites: AMT 202

**AMT 205 Starting and Ignition Systems****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in ignition and starting systems for reciprocating and turbine aircraft engines. Topics include: inspection, troubleshooting, and repair.

Prerequisites: AMT 105 and AMT 110

**AMT 210 Engine Fuel and Lubrication Systems****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in lubrication systems, fuel metering systems, and engine fuel systems.

Prerequisites: AMT 100 and AMT 105

**AMT 215 Aircraft Propellers****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in removal, installation, inspection, and repair of fixed and variable pitch aircraft propellers and propeller governing systems.

Prerequisites: AMT 105 and AMT 115

**AMT 250 Unmanned Aerial Systems****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on constructing, assembling, inspecting, repairing, and maintaining a small unmanned aerial system (drone). Topics include: designing and constructing a platform, soldering circuit boards and electrical components, programming operating and control systems, assembling propulsion systems, and checking operations.

Prerequisites: None

**AMT 255 Unmanned Aerial Systems - Remote Pilot Certification 2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on safely and legally operating an unmanned aerial system (UAS) as an operator, observer, and operations administrator in compliance with Federal Aviation Regulations. The course also prepares students to successfully complete the Federal Aviation Administration FAR Part 107 Remote Pilot certification exam.

Prerequisites: None

**AMT 270 Avionics Orientation****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on aircraft and avionics systems topics and terminology. Topics include: aircraft parts, aircraft axis and controls, flight controls, theory of flight, pre- and post-flight inspection, and ground movement and storage of aircraft. The course prepares students to successfully complete the National Center for Aircraft Technician Training exam for Aircraft Electronics Technician.

Prerequisites: None

**AMT 271 Avionics 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on concepts and skills for repair of avionics equipment. Topics include: procedures used by air carriers and repair stations; avionics publications, forms, and records; tools and equipment; buildup of wire bundles; review of Boolean Algebra; and ARINC codes.

Prerequisites: AMT 155

**AMT 272 Avionics 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of AMT 271. Topics include: logic gates, troubleshooting analog and digital electronic systems to line replicable units, amplifier theory, on-board navigation and maintenance computer systems, and intercom and passenger entertainment systems.

Prerequisites: AMT 271

**AMT 290 FAA General, Airframe, and Powerplant Certification Test Preparation****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course that prepares students to successfully complete the Federal Aviation Administration (FAA) General, Airframe, and Powerplant written, oral, and practical tests. To enroll in the course, student must be a graduate of a Part 147 school or hold FAA-signed Form 8610-2.

Prerequisites: Graduate of a Part 147 school or hold FAA-signed Form 8610-2

**AMT 291 Full-Time Cooperative Education 1: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**AMT 292 Full-Time Cooperative Education 2: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 291

**AMT 293 Full-Time Cooperative Education 3: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 292

**AMT 294 Internship 1: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 100

**AMT 295 Internship 2: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 294

## Avionics Certificate (AVNC)

### Avionics Certificate (AVNC)

The Avionics Certificate provides skills for individuals who are interested in advanced aviation electronics. Graduates are able to troubleshoot and repair various systems in a flight-line environment, including onboard computers, automatic pilot, instrument navigation and communication equipment, and powerplant electronic control systems.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Avionics Certificate (AVNC)

Semester 1		Lec	Lat	Credits
AMT 270	Avionics Orientation	2	2	4
Semester 2				
AMT 271	Avionics 1	2	2	4
Semester 3				
AMT 272	Avionics 2	2	2	4
Total Credits:		6	6	12

## Faculty

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## Courses

**AMT 100 Aviation Standard Practices****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course that uses FAA-approved instruction for foundation concepts and techniques in aviation maintenance. Topics include: fluid lines and fittings, materials and processes, and cleaning and corrosion control.

Prerequisites: ENG 085 or appropriate placement

**AMT 105 Aircraft Orientation****4 Credits. 2 Lecture Hours. 5 Lab Hours.**

A course on foundation concepts in aviation maintenance. Topics include: aircraft drawings, ground operations and servicing, mechanic privileges, and basic concepts of physics.

Prerequisites: ENG 085 or appropriate placement

**AMT 110 Aircraft Electricity****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course that uses FAA-approved instruction for foundation concepts and techniques in aviation maintenance. Topics include: basic concepts of math, physics, and electricity; aircraft drawings; and maintenance forms and records.

Prerequisites: MAT 093 or appropriate placement

**AMT 115 Aircraft Weight and Balance****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on foundation concepts and techniques related to aircraft weight and balance. Topics include: maintenance forms and records, and maintenance publications.

Prerequisites: MAT 093 or appropriate placement

**AMT 120 Aircraft Non-Metal Structures****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on wood structures, aircraft covering, aircraft finishes, and inspection of bonded structures.

Prerequisites: AMT 105

**AMT 125 Aircraft Metal Structures****5 Credits. 3 Lecture Hours. 5 Lab Hours.**

A course on repairing and maintaining sheet metal structures. Topics include: selecting and installing rivets and fasteners, forming and bending sheet metal, and laying out repairs.

Prerequisites: AMT 100 and AMT 105

**AMT 130 Aircraft Welding Processes****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on welding of magnesium, titanium, aluminum, and steel in aircraft. The course does not prepare students for certification specific to welding.

Prerequisites: None

**AMT 135 Aircraft Landing Gear Systems****5 Credits. 3 Lecture Hours. 5 Lab Hours.**

A course on repairing and maintaining aircraft landing gear systems and hydraulic and pneumatic power systems.

Prerequisites: AMT 105 and MAT 122 or appropriate placement

**AMT 140 Airframe Electrical Systems****6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course on troubleshooting aircraft electrical systems and inspecting direct current generators.

Prerequisites: AMT 105 and AMT 110

**AMT 145 Airframe Electronic Systems****2 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on aircraft instrument systems and communication and navigation systems.

Prerequisites: AMT 105 and AMT 110

**AMT 150 Airframe Systems****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on systems for cabin atmosphere and control, position and warning, ice and rain control, fire protection, and aircraft fuel.

Prerequisites: AMT 100, AMT 105, and AMT 110

**AMT 155 Airframe Assembly and Rigging****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on balancing rigging, and inspecting primary and secondary flight controls of rotor and fixed wing aircraft.

Prerequisites: AMT 100, AMT 105, and MAT 122 or appropriate placement

**AMT 160 Airframe Inspection****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on inspection of airframes and sheet metal structures, repair of sheet metal structures, and conformity inspections on rotor and fixed wing aircraft.

Prerequisites: AMT 105 and AMT 115

**AMT 191 Part-Time Cooperative Education 1: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 100

**AMT 192 Part-Time Cooperative Education 2: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 191

**AMT 193 Part-Time Cooperative Education 3: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 192

**AMT 194 Part-Time Cooperative Education 4: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 193

**AMT 195 Part-Time Cooperative Education 5: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 194

**AMT 196 Part-Time Cooperative Education 6: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 195

**AMT 201 Powerplant Maintenance 1****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in inspection and repair of radial engines; overhaul of reciprocation engines; and inspection, check, service and repair of reciprocating engines and engine systems.

Prerequisites: AMT 100 and AMT 105

**AMT 202 Powerplant Maintenance 2****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A continuation of AMT 201, using FAA-approved instruction for concepts and techniques in installation, troubleshooting, and removal of reciprocating engines; overhaul of turbine engines; and induction and engine airflow systems.

Prerequisites: AMT 201

**AMT 203 Powerplant Maintenance 3****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A continuation of AMT 202, using FAA-approved instruction in the subject areas of inspection, check, service, and repair of turbine engines and turbine engine installations; installation, troubleshooting, and removal of turbine engines; performing powerplant conformity and airworthiness inspection; engine exhaust and reverser systems; unducted fans; and auxiliary power units.

Prerequisites: AMT 202

**AMT 205 Starting and Ignition Systems****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in ignition and starting systems for reciprocating and turbine aircraft engines. Topics include: inspection, troubleshooting, and repair.

Prerequisites: AMT 105 and AMT 110

**AMT 210 Engine Fuel and Lubrication Systems****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in lubrication systems, fuel metering systems, and engine fuel systems.

Prerequisites: AMT 100 and AMT 105

**AMT 215 Aircraft Propellers****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in removal, installation, inspection, and repair of fixed and variable pitch aircraft propellers and propeller governing systems.

Prerequisites: AMT 105 and AMT 115

**AMT 250 Unmanned Aerial Systems****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on constructing, assembling, inspecting, repairing, and maintaining a small unmanned aerial system (drone). Topics include: designing and constructing a platform, soldering circuit boards and electrical components, programming operating and control systems, assembling propulsion systems, and checking operations.

Prerequisites: None

**AMT 255 Unmanned Aerial Systems - Remote Pilot Certification****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on safely and legally operating an unmanned aerial system (UAS) as an operator, observer, and operations administrator in compliance with Federal Aviation Regulations. The course also prepares students to successfully complete the Federal Aviation Administration FAR Part 107 Remote Pilot certification exam.

Prerequisites: None

**AMT 270 Avionics Orientation****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on aircraft and avionics systems topics and terminology. Topics include: aircraft parts, aircraft axis and controls, flight controls, theory of flight, pre- and post-flight inspection, and ground movement and storage of aircraft. The course prepares students to successfully complete the National Center for Aircraft Technician Training exam for Aircraft Electronics Technician.

Prerequisites: None

**AMT 271 Avionics 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on concepts and skills for repair of avionics equipment. Topics include: procedures used by air carriers and repair stations; avionics publications, forms, and records; tools and equipment; buildup of wire bundles; review of Boolean Algebra; and ARINC codes.

Prerequisites: AMT 155

**AMT 272 Avionics 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of AMT 271. Topics include: logic gates, troubleshooting analog and digital electronic systems to line replicable units, amplifier theory, on-board navigation and maintenance computer systems, and intercom and passenger entertainment systems.

Prerequisites: AMT 271

**AMT 290 FAA General, Airframe, and Powerplant Certification Test Preparation****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course that prepares students to successfully complete the Federal Aviation Administration (FAA) General, Airframe, and Powerplant written, oral, and practical tests. To enroll in the course, student must be a graduate of a Part 147 school or hold FAA-signed Form 8610-2.

Prerequisites: Graduate of a Part 147 school or hold FAA-signed Form 8610-2

**AMT 291 Full-Time Cooperative Education 1: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**AMT 292 Full-Time Cooperative Education 2: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 291

**AMT 293 Full-Time Cooperative Education 3: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 292

**AMT 294 Internship 1: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 100

**AMT 295 Internship 2: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 294

## Chemical and Environmental Engineering Technologies

**Chemical Technology** is a career field that uses sophisticated chemical/biochemical methods and cutting-edge instrumentation to analyze chemical and pharmaceutical substances and evaluate their properties.

- The Chemical Technology (CMT) (p. 105) associate's degree program prepares students to become laboratory technicians, research associates, or process chemists in high-tech research and development or quality control laboratories, academic institutions, government agencies, and chemical manufacturing facilities.
- The **Chemical Technology Operator Certificate (CMTOC)** provides technical skills for students seeking positions in a variety of process technology industries.

**Environmental Engineering Technology** is a career field that applies principles of math, science, technology, engineering, and law to protect



the environment, promote conservation of natural resources, and ensure the health and safety of workers and the community.

Environmental issues affect the operations of many chemical and manufacturing industries, and play a role in agriculture, transportation, defense, energy, construction, and many other commercial enterprises. Environmental technologies also factor into the protection of parks and forests, nature preserves, and recreational venues.

- The **Environmental Engineering Technology (EVT)** associate's degree program also offers two majors: **Stormwater Management (EVTS)** and **Water and Wastewater (EVTW)**. All courses, except cooperative education, meet Ohio Environmental Protection Agency requirements for license renewal (U.S. EPA External Provider).
- The **Environmental Safety and Security Certificate (EVTSC)** develop skills related to disaster preparedness, utilities safety and security, transportation safety and security, law enforcement, and research.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

## Chemical Technology and Chemical Technology Operator Certificate (CMT & CMTOC)

### Chemical Technology (CMT)

Chemical technicians use sophisticated chemical/biochemical methods and cutting-edge instrumentation to analyze chemical and pharmaceutical substances and evaluate their properties.

The Chemical Technology degree program prepares students to become laboratory technicians or research associates in high-tech research and development or quality control laboratories, academic institutions, and government facilities. Graduates often are employed in chemical manufacturing; polymer/plastic labs; or food/beverage, pharmaceutical, or environmental industries and organizations.

Graduates of the Chemical Technology program earn an Associate of Applied Science degree, and many continue their education in a bachelor's degree program in chemistry, biology/biotechnology, chemical engineering, or a pre-professional degree such as pre-pharmacy, pre-medicine, pre-dental, or pre-veterinary medicine.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Chemical Technology Operator Certificate (CMTOC)

The Chemical Technology Operator Certificate prepares students for positions in process technology industries, including chemical blending, processing, and manufacturing; food/beverages; pharmaceuticals; bioscience; and petrochemicals.

Students gain technical skills needed to manage basic control of systems and devices to monitor levels, temperatures, pressures, and

transfer of products. Students also learn basic operation of pumps, valves, and vessels, as well as safety and quality standards.

Students who earn the certificate may continue their education in the Chemical Technology associate's degree program.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Chemical Technology (CMT)

Semester 1		Lec	Lat	Credits
CMT 111	Chemical Technology 1 ( T )	0	3	1
CHE 121 & CHE 131	General Chemistry 1 and General Chemistry 1 Lab ( G )	4	3	5
ENG 101	English Composition 1 ( G )	3	0	3
MAT 151	College Algebra ( G )	3	2	4
FYE 1XX First Year Experience Elective ( B )		1	0	1
XXX XXX Arts/ Humanities or Social/ Behavioral Sciences Elective ( G )		3	0	3
Semester 2				
CMT 112	Chemical Technology 2 ( T )	0	3	1
CHE 111	Bio-Organic Chemistry ( B )	3	3	4
CHE 122 & CHE 132	General Chemistry 2 and General Chemistry 2 Lab ( B )	4	3	5
MAT 152	Trigonometry ( B )	4	0	4
Semester 3				
CMT 291	Full-Time Cooperative Education 1: Chemical Technology ( T )	1	40	2
Semester 4				
CMT 220	Analytical Chemistry ( T )	3	3	4
COMM 110	Public Speaking ( B )	3	0	3
ENG 10X English Composition Elective ( G )		3	0	3
XXX XXX Technical Elective 1 ( T )		2	3	3
XXX XXX Science Elective 1 ( T )		3	3	4
Semester 5				
CMT 230	Chemical Instrumental Analysis ( T )	3	3	4
CMT 285	Chemical Research ( T )	1	0	1

XXX XXX Science Elective 2 (T)	3	3	4
XXX XXX Technical Elective 2 (T)	1	2	2
XXX XXX Technical Elective 3 (T)	1	2	2
<b>Semester 6</b>			
CMT 292 Full-Time Cooperative Education 2: Chemical Technology (T)	1	40	2
<b>Total Credits:</b>	<b>50</b>	<b>116</b>	<b>65</b>

### Electives

#### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

#### Arts/Humanities Elective or Social/Behavioral Science Elective

Any ART, CULT, FRN, LIT, MUS, PHI, REL, SPN, THE or, Any CRJ, ECO, GEO, HST, POL, PSY, SOC	3
	3

#### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

#### Technical Electives

CHE 201 & CHE 211	Organic Chemistry 1 and Organic Chemistry 1 Lab	5
CHE 202 & CHE 212	Organic Chemistry 2 and Organic Chemistry 2 Lab	5
MAT 131	Statistics 1	3
MAT 132	Statistics 2	3
MAT 251	Calculus 1	5
MAT 252	Calculus 2	5
MAT 253	Calculus 3	5

or, Any BIO or PHY listed in Science Electives, if not used as Science Elective

or, Any EVT, CET, EET, EMET, MET, PSET, SET

#### Science Electives **8**

Select one of the following series:

BIO 131 & BIO 132	Biology 1 and Biology 2
PHY 151 & PHY 152	Physics 1: Algebra and Trigonometry-Based and Physics 2: Algebra and Trigonometry-Based
PHY 201 & PHY 202	Physics 1: Calculus-Based and Physics 2: Calculus-Based

or, Any two of the following courses:

EVS 110	Environmental Science: Conservation and Cleanup
EVS 120	Environmental Geology

EVS 130	Environmental Science: Ecology and Ecosystems
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Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Chemical Technology Operator Certificate (CMTOC)

Semester 1		Lec	Lat	Credits
ENG 101	English Composition 1	3	0	3
CMT 171	Chemical Operator 1	3	2	4
CMT 111	Chemical Technology 1	0	3	1
CHE 100	Basic Chemistry	2	2	3
MAT 124	Applied Algebra and Geometry	3	2	4
Semester 2				
ENG 104	English Composition 2: Technical Communication	3	0	3
CMT 112	Chemical Technology 2	0	3	1
CMT 172	Chemical Operator 2	3	2	4
EVT 115	OSHA 40-Hour Course	2	2	3
EVT 187	Materials Transportation Safety and Security	1	2	2
EVT 160	Solid and Hazardous Waste Management	2	3	3
<b>Total Credits:</b>		<b>22</b>	<b>21</b>	<b>31</b>

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Chemical Technology (CMT)

- Students will determine and demonstrate safe lab practices and use of lab safety resources.
- Students will utilize basic laboratory equipment and techniques.
- Students will develop an ability to apply written, oral, and graphical communication in both technical and non-technical environments, and an ability to identify and use appropriate technical literature.

- Students will effectively utilize lab tools in accurate/precise solution preparation.
- Students will apply a variety of lab calculations common in chemical analysis.
- Students will be able to compile and evaluate experimental data.
- Students will design and conduct an individual research project showing mastery of experimental design and project completion.

## Faculty

### Program Chair/Advisor

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## CHE Courses

### CHE 100 Basic Chemistry

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introductory course on concepts in chemistry. Topics include: dimensional analysis and problem solving, physical and chemical properties of matter, organization of the periodic table, writing and manipulating formulas, stoichiometry, gas laws, equilibrium, and acids and bases.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both), or appropriate placements

### CHE 105 Everyday Chemistry

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course for non-science majors on the relevance of basic principles of chemistry to daily life. Topics include: laboratory/data analysis, matter classification, the periodic table, compound formation, chemical reactions, synthesis/analysis of consumer products, and the global impact of consumerism.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both), or appropriate placements

Ohio Transfer Module Approved

### CHE 110 Fundamentals of Chemistry

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A college-level general chemistry course for non-majors. Topics include: atomic structure, bonding, chemical reactions, properties and states of matter, acids and bases, and equilibrium.

Prerequisites: ENG 085, and MAT 096 or MAT 105 or MAT 124 (minimum grade C for all), or appropriate placements

Ohio Transfer Module Approved

### CHE 111 Bio-Organic Chemistry

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

Study of foundational concepts of organic chemistry and biochemistry. Topics include: types of organic compounds and representative reactions, and biochemical compounds and reactions.

Prerequisites: CHE 110 (minimum grade C) or CHE 121 and CHE 131 (minimum grade C for both)

Ohio Transfer Module Approved

### CHE 115 General, Organic, and Biological Chemistry

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A survey of basic general, organic, and biological chemistry. Topics include: dimensional analysis, problem-solving strategies, atomic structure, chemical bonding, reactions, acid-base chemistry, attractive forces, functional groups, structure/reactions of major macromolecules, and metabolism.

Prerequisites: ENG 085, and MAT 096 or MAT 105 or MAT 124 (minimum grade C for all), or appropriate placements

Ohio Transfer Module Approved

### CHE 121 General Chemistry 1

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A general chemistry course for science majors. Topics include: measurement systems; composition, properties, and reactions of elements and compounds; states of matter; atomic structure and bonding; and solution chemistry.

Prerequisites: High School Chemistry (within three years, minimum grade B) or CHE 100 or CHE 110 (minimum grade C for both), and MAT 124 or MAT 096 (minimum grade C for both), and ENG 085 (minimum grade C), or appropriate placements

Corequisites: CHE 131

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

### CHE 122 General Chemistry 2

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of CHE 121. Topics include: kinetics, chemical equilibrium, acid-base chemistry, acid-base and solubility equilibrium, thermodynamics, electrochemistry, and chemistry of transition elements.

Prerequisites: CHE 121 and CHE 131 (minimum grade C for both) and MAT 125 or MAT 151 or MAT 153 (minimum grade C for all)

Corequisites: Take CHE-132

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

### CHE 131 General Chemistry 1 Lab

**1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies CHE 121.

Prerequisites: High School Chemistry (within 3 years, minimum grade B) or CHE 100 or CHE 110 (minimum grade C for both), and MAT 124 or MAT 096 (minimum grade C for both), and ENG 085 (minimum grade C), or appropriate placements

Corequisites: CHE 121

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 132 General Chemistry 2 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies CHE 122.

Prerequisites: CHE 121 and CHE 131 (minimum grade C for both)

Corequisites: CHE 122

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 201 Organic Chemistry 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An organic chemistry course for students preparing for science-related employment or additional science education. Topics include: principles of carbon chemistry including bonding, structure, mechanisms, properties, reactions, synthesis, acids, and bases.

Prerequisites: CHE 122 and CHE 132 (minimum grade C for both)

Corequisites: CHE 211

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 202 Organic Chemistry 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of CHE 201. Topics include: mass spectrometry; infrared, ultraviolet/visible, and NMR spectroscopies; aromaticity; chemistry of benzene, carboxylic acids, amines, aldehydes, and ketones; and oxidation and reduction.

Prerequisites: CHE 201 and CHE 211 (minimum grade C for both)

Corequisites: CHE 212

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 211 Organic Chemistry 1 Lab****2 Credits. 0 Lecture Hour. 4 Lab Hours.**

A laboratory course that accompanies CHE 201. Laboratory experiences include: general organic laboratory techniques; isolation, purification, and identification of organic compounds; simple synthesis; and determination of unknowns.

Prerequisites: CHE 122 and CHE 132 (minimum grade C for both)

Corequisites: CHE 201

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 212 Organic Chemistry 2 Lab****2 Credits. 0 Lecture Hour. 4 Lab Hours.**

A laboratory course that accompanies CHE 202. Laboratory experiences include: simple, complex, and multistep synthesis; and isolation, purification, analysis, and identification of organic compounds.

Prerequisites: CHE 201 and CHE 211 (minimum grade C for both)

Corequisites: CHE 202

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 311 Chemistry and Analysis of Food 1****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

The first part of a two-semester biochemistry sequence for students seeking a bachelor's degree in Culinary and Food Science. Topics include: structure, nomenclature, chemical reactions, acid-base chemistry, and functionality of food components including water, sugars, carbohydrates, and lipids; and chemistry of changes that occur during food processing, storage, and utilization of these components.

Prerequisites: CHE 115 and MAT 151 (minimum grade C for both), and instructor consent

Instructor Consent Required

**CHE 312 Chemistry and Analysis of Food 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of CHE 311. Topics include: structure, nomenclature, chemical reactions, acid-base chemistry, and functionality of food components including proteins, enzymes, flavors, colorants, and other food nutrients and additives; chemistry of changes that occur during food processing, storage, and utilization of these components; and analysis of food components.

Prerequisites: CHE 311 (minimum grade C), and instructor consent

Instructor Consent Required

**CMT Courses****CMT 111 Chemical Technology 1****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A course on fundamental concepts and techniques in chemical technology. Topics include: the chemical technology major at Cincinnati State, career development, professional communication, chemical technicians' roles in industry, using Microsoft Office Suite, industrial/laboratory safety and hygiene, and laboratory statistics.

Prerequisites: None

**CMT 112 Chemical Technology 2****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A continuation of CMT 111. Topics include: maintenance, calibration, and use of laboratory glassware and equipment; solution preparation skills; laboratory math and statistics; and using computers for data analysis.

Prerequisites: CMT 111

**CMT 171 Chemical Operator 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the Process Industry and the roles and responsibilities of Process Technicians. Topics include: applied chemistry and physics; process industry equipment; occupational safety; and skills and attitudes needed to succeed as a Process Technician.

Prerequisites: None

**CMT 172 Chemical Operator 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of CMT 171, emphasizing chemical systems and operational processes and responsibilities of a Process Technician. Topics include: instrumentation, systems used in process technology operations, process documentation (P&amp;ID's and PFDs), start-up and shut-down requirements, and process operator responsibilities.

Prerequisites: CMT 171

**CMT 191 Part-Time Cooperative Education 1: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

**CMT 192 Part-Time Cooperative Education 2: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 191

**CMT 193 Part-Time Cooperative Education 3: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 192

**CMT 194 Part-Time Cooperative Education 4: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 193

**CMT 195 Part-Time Cooperative Education 5: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 194

**CMT 196 Part-Time Cooperative Education 6: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 195

**CMT 220 Analytical Chemistry****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on quantitative and qualitative chemical analysis with emphasis on wet chemical techniques. Topics include: sample preparation; volumetric, gravimetric, electrochemical, and separation methods; and statistical treatment of data.  
Prerequisites: CMT 112, CHE 122, and CHE 132

**CMT 230 Chemical Instrumental Analysis****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on quantitative and qualitative chemical analysis. Topics include: instrumental techniques, electrochemistry, atomic and molecular spectroscopy, gas and liquid chromatography, mass spectrometry, and statistical treatment of data.

Prerequisites: CMT 220

Corequisites: CMT 285: Chemical Research

**CMT 285 Chemical Research****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

Students apply knowledge of instrumental analysis to complete an independent research project, including developing a procedure, performing necessary testing, applying statistical techniques, and incorporating the data into a formal report and oral presentation.

Prerequisites: CMT 220

Corequisites: CMT 230: Chemical Instrumental Analysis

**CMT 291 Full-Time Cooperative Education 1: Chemical Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

**CMT 292 Full-Time Cooperative Education 2: Chemical Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CMT 291

**CMT 293 Full-Time Cooperative Education 3: Chemical Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CMT 292

**CMT 294 Internship 1: Chemical Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CMT 111

**CMT 295 Internship 2: Chemical Technology**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: CMT 294

# Environmental Engineering Technology (EVT)

## Environmental Engineering Technology (EVT)

Environmental issues affect our health and our communities, as well as the sustainability of future generations and the earth itself.

Environmental concerns directly affect the operations of all types of industries, including parks and forest services, transportation, chemical facilities, defense and energy, construction, and, of course, environmental services.

Graduates of the Environmental Engineering Technology program earn an Associate of Applied Science degree and are prepared to enter positions in a wide range of industries, environmental restoration sites, government agencies, laboratories, consulting firms, and conservation districts.

Most curriculum courses, not including cooperative education courses, meet Ohio Environmental Protection Agency requirements for license renewal (U.S. EPA External Provider).

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnatiastate.edu/academics/admission/>) section of the College website.

## Environmental Engineering Technology (EVT)

Semester 1		Lec	Lab	Credits
EVT 105	Environmental Sampling ( B )	2	3	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
CHE XXX	Chemistry Elective ( B )	3	3	4
MAT XXX	Mathematics Elective 1 ( G )	4	0	4
ENG 101	English Composition 1 ( G )	3	0	3
EVS 110	Environmental Science: Conservation and Cleanup ( G )	3	2	4
Semester 2				

EVT 170	Water and Wastewater Treatment and Analysis ( T )	3	3	4
EVT 140	Environmental Regulations and Permits ( T )	1	2	2
EVT 160	Solid and Hazardous Waste Management ( T )	2	3	3
MAT XXX	Mathematics Elective 2 ( B )	4	0	4
EVT 150	Environmental Chemistry ( B )	2	3	3
Semester 3				
XXX XXX	Cooperative Education Elective ( T )	1	40	2
Semester 4				
EVT 240	Fluid Mechanics ( T )	3	3	4
EVS 120	Environmental Geology ( T )	3	2	4
EVT 220	Air Pollution Control ( T )	2	3	3
EVT 230	Treatment Technologies ( T )	2	2	3
Semester 5				
EVT 292	Full-Time Cooperative Education 2: Environmental Engineering Technology ( T )	1	40	2
Semester 6				
EVT 155	Site Mapping and GIS ( T )	2	3	3
XXX XXX	Statistics Elective ( T )	1	2	2
ENG 10X	English Composition Elective ( G )	3	0	3
XXX XXX	Arts/ Humanities or Social/ Behavioral Science Elective ( G )	3	0	3
XXX XXX	Technical Elective ( T )	1	2	2
Total Credits:		50	116	66

### Electives

**First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**Chemistry Elective**

CHE 110	Fundamentals of Chemistry	4
CHE 121 & CHE 131	General Chemistry 1 and General Chemistry 1 Lab	5

**Mathematics Electives** **8**

Select one the following series:

MAT 125 & MAT 126	Algebra and Trigonometry and Functions and Calculus	8
Or		
MAT 151 & MAT 152	College Algebra and Trigonometry	8
Or		
MAT 251 & MAT 252	Calculus 1 and Calculus 2	10
<b>Cooperative Education Elective</b>		<b>2</b>
Select one of the following:		
CIT 190 & EVT 191	Career Preparation: Engineering and Information Technologies and Part-Time Cooperative Education 1: Environmental Engineering Technology	2
EVT 191 & EVT 192	Part-Time Cooperative Education 1: Environmental Engineering Technology and Part-Time Cooperative Education 2: Environmental Engineering Technology	2
EVT 291	Full-Time Cooperative Education 1: Environmental Engineering Technology	2
<b>Statistics Elective</b>		
EVT 180	Environmental Statistics	2
MAT 131	Statistics 1	3
<b>English Composition Elective</b>		
ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3
<b>Arts/Humanities Elective or Social/Behavioral Science Elective</b>		
Any ART, CULT, FRN, LIT, MUS, PHI, REL, SPN, THE or, Any CRJ, ECO, GEO, HST, POL, PSY, SOC		3
<b>Technical Elective</b>		
Any CET, CMT, EVS, EVT, LH, or other course approved by Program Chair		2

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Environmental Engineering Technology (EVT, EVTS, EVTW)

- Ability to apply knowledge, techniques, skills, and modern tools in environmental engineering technology activities.
- Ability to apply a knowledge of mathematics, science, engineering, and technology to environmental engineering technology problems.
- Ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments.
- Ability to function effectively as a member of a technical team.
- Ability to identify, analyze, and solve environmental engineering technology problems.
- Ability to apply written, oral, and graphical communication; and ability to identify and use appropriate technical literature.
- Understanding of the need for self-directed continuing professional development.
- Understanding of and commitment to address professional and ethical responsibilities, including a respect for diversity.
- Commitment to quality, timeliness, and continuous improvement.

## Faculty

### Program Chair

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### Co-Op Coordinators

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## EVS Courses

### EVS 110 Environmental Science: Conservation and Cleanup 4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on environmental science as it affects human activity and the environment. Topics include: drinking water and wastewater treatment, air pollution, energy, conservation, solid and hazardous waste management, and risk assessment. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

**EVS 120 Environmental Geology****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the relationship of applied geology to the human environment. Topics include: plate tectonics, soils, groundwater and surface water, natural disasters and glacial geology, and resource protection from contamination. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

**EVS 130 Environmental Science: Ecology and Ecosystems****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on environmental science and ecology. Topics include: types of ecosystems and how they function, elementary soil science, biodiversity, and population growth and sustainability. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

**EVT Courses****EVT 105 Environmental Sampling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on sampling requirements and techniques. Topics include: sampling groundwater, surface water, drums, sediments, soil, and air; site assessment; and field testing. Students provide transportation to off-campus field trips. Students who complete the course successfully earn a USEPA certificate.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

**EVT 115 OSHA 40-Hour Course****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the OSHA-specific requirements under 29 CFR 1910.120 for 40-Hour Hazardous Waste Site Training. Topics include: avoiding injury on a hazardous waste site, and basic concepts for health and safety programs. Students who complete the course successfully earn a certificate.

Prerequisites: ENG 085 and MAT 093 or appropriate placements  
Instructor Consent Required

**EVT 125 Restoration Ecology: Sustainable Sites****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on environmental design principles and sustainable development. Topics include: federal, state, and local issues and standards; and managing introduced, exotic, and invasive species. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

**EVT 135 Restoration Ecology: Rain Gardens****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on rain garden design and construction techniques that harvest rain water from local watersheds. Topics include: baseline analysis, site preparation, plant selection, and study of components in various ecoregions. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

**EVT 140 Environmental Regulations and Permits****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on federal, state, and local environmental laws with emphasis on related computer concepts and applications. Topics include: TSCA, FIFRA, OSHA, CAA, CWA, SDWA, CERCLA, and RCRA.

Prerequisites: EVS 110 and (ENG 101 or ENQ REQC)

**EVT 145 Restoration Ecology: Native Vegetation****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on native trees, shrubs, and vines that have commercial value for sustainable use. Topics include: proven landscape species, their uses in the tri-state area, and invasive species of various ecoregions. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

**EVT 150 Environmental Chemistry****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on organic chemistry and chemical principles of environmental systems. Topics include: nomenclature, geochemistry, atmospheric chemistry, organic and inorganic air pollutants, toxicological chemistry, resources, energy, and analysis of environmental samples using chemical instrumentation.

Prerequisites: CHE 110 or CHE 121

**EVT 155 Site Mapping and GIS****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on mapping techniques for the environmental field. Topics include: map concepts, coordinate systems, elevation contours, and terrain modeling. Course activities include manual drafting, basic principles of surveying, and an introduction to CAD and GIS software.

Prerequisites: MAT 125 or MAT 151 or appropriate placement

**EVT 158 Fundamentals of Industrial Hygiene****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for recognizing, evaluating, and controlling health and safety hazards in the workplace. Topics include: radiation safety, noise, solvents, biological hazards, and video display terminal (VDT) hazards.

Prerequisites: EVS 110

**EVT 160 Solid and Hazardous Waste Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for solid and hazardous waste disposal facilities. Topics include: waste minimization, composting, recycling, and landfilling; principles and practices for storage, transport, treatment, and disposal of hazardous wastes; regulations and permits; and emerging technologies. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110, and CHE 110 or CHE 121

**EVT 165 Calculations for Water Operators****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mathematical applications for water treatment plant processes including water sources and storage, coagulation and flocculation, sedimentation, filtration, chlorination, fluoridation, and softening. Topics include applied volume, flow, and velocity; chemical dosage; loading rates; detention and retention; and pumping.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 166 Calculations for Wastewater Operators****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on calculations for wastewater treatment applications. Topics include: volumes, flow, and velocity; conversions; pumping and loading rates; F/M ratio; sludge age; MCRT; and efficiency.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement



**EVT 168 Radiation Safety****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on radiation safety and protection. Topics include: the interaction of radiation with matter, biological effects, types of radioactivity, dosimetry, shielding calculations, and radiation measurements.

Prerequisites: EVS 110

**EVT 170 Water and Wastewater Treatment and Analysis****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on scientific and engineering principles for water quality control. Topics include: environmental microbiology; bioremediation; microbes as indicators of pollution; and physical, chemical, and biological analysis. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110, and CHE 110 or CHE 121

**EVT 171 Environmental Mountain Ecology 1****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on principles of ecology and pollutant dispersion as they pertain to mountain ecosystems, and the environmental impact of human activities on mountain ecosystems.

Prerequisites: EVT 105 and EVS 120

**EVT 172 Environmental Mountain Ecology 2****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A continuation of EVT 171. Students participate in field experience that includes a trip to the mountainous regions of the western United States. Students pay for travel-related expenses.

Prerequisites: EVT 171

Instructor Consent Required

**EVT 175 Watershed Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing watershed action plans. Topics include: water quality monitoring, stream bank stabilization, flood management strategies, habitat restoration, and control of combined and sanitary sewer overflow. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105, and CHE 110 or CHE 121

**EVT 180 Environmental Statistics****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on statistical methods used in environmental pollution monitoring. Topics include: computer concepts and applications emphasizing environmental data.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 185 Supervisory Management in Environmental Fields****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on concepts and practices of management as they apply to the environmental field. Topics include: problem solving, communication skills, delegation and motivation, unions, and manager-employee relationships.

Prerequisites: EVS 110 and ( ENG 101 or ENG REQC)

**EVT 187 Materials Transportation Safety and Security****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on safety and security during the transport of hazardous substances. Topics include: Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, Transportation Security Administration, aviation security, and shipping protocols. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105

**EVT 191 Part-Time Cooperative Education 1: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EVT 192 Part-Time Cooperative Education 2: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 191

**EVT 193 Part-Time Cooperative Education 3: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 192

**EVT 194 Part-Time Cooperative Education 4: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 193

**EVT 195 Part-Time Cooperative Education 5: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 194

**EVT 196 Part-Time Cooperative Education 6: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 195

**EVT 210 Industrial Waste Treatment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the responsibilities of the industrial wastewater treatment plant operator. Topics include: the activated sludge process, physical-chemical treatment, instrumentation, industrial waste monitoring, waste treatment processes, and maintenance.

Prerequisites: EVT 170

**EVT 215 Utilities Safety and Security****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the safety and security of the utility systems in the United States in the event of natural disasters or terrorist or wartime attack. Topics include: protection of drinking water systems, wastewater treatment systems, and energy supplies.

Prerequisites: EVT 170

**EVT 220 Air Pollution Control****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on monitoring permitting and control of air releases. Topics include: air quality management, health and environmental effects, indoor air pollution, pollen and mold counts, control and sampling equipment, stack testing, and data analysis. Students provide transportation to off-campus field trips.

Prerequisites: EVT 150

**EVT 225 Environmental Mapping****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mapping and resource inventory for the environmental field. Topics include: map projections, world coordinates, watershed delineation, GIS data analysis and queries, and remote sensing. Students use conventional surveying and GPS equipment for data collection, and computer mapping CAD and GIS software for data analysis.

Prerequisites: EVT 155

**EVT 230 Treatment Technologies****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and applications of mainstream treatment technologies used to prevent, monitor, and control pollution from industries and government facilities. Topics include: physical, chemical, thermal, and biological treatment methods. Students provide transportation to off-campus field trips.

Prerequisites: EVT 170

**EVT 235 Stormwater Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the infrastructure of stormwater control. Topics include: surface water hydrology, historical development of drainage control, FEMA and local flood design criteria and control methods, storm sewers, open channel, culvert conveyance, detention systems and calculations, and post-construction BMPs.

Prerequisites: EVT 225 and EVT 240

**EVT 237 Environmental Impact of Weapons of Mass Destruction****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on understanding weapons of mass destruction and recovery following an attack. Topics include: chemical and biological warfare agents; radiation dispersal devices; and detection, decontamination, and disposal of these agents. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105 and EVT 170

**EVT 240 Fluid Mechanics****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on engineering properties of fluids including kinematics and dynamics, fluid flow, buoyancy, and stability. Topics include: Bernoulli's equation and the energy equation; Reynold's number; energy losses; and series, parallel, and open channel flow.

Prerequisites: MAT 126 or MAT 152 or appropriate placement

**EVT 245 Operation of Water Treatment Plants****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on efficient operation of water treatment plants that helps students prepare for certification exams. Topics include: proper installation, inspection, operation, maintenance, repair, and management of water treatment plants; corrosion control; control of trihalomethanes; and water sample analysis.

Prerequisites: EVT 165

**EVT 246 Operation of Wastewater Treatment Plants****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on efficient operation of wastewater treatment plants that helps students prepare for certification exams. Topics include: start-up, daily operations, interpretation of lab results, and possible approaches to solving operational problems.

Prerequisites: EVT 166

**EVT 247 Advanced Sampling and Analysis****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on sampling equipment and methods used to evaluate hazards after natural disasters. Topics include: equipment and instruments used to detect biological and chemical warfare agents. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105 and EVT 170

**EVT 250 Water Collection and Distribution Systems****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on operating and controlling water delivery and wastewater collection systems. Topics include: gravity and pumped lines; storage and holding tanks; pumps; system monitoring, repair, and rehabilitation; water system depressurization; backflow prevention; metering; sewer overflows; and gaseous buildup.

Prerequisites: EVT 240

**EVT 255 Stormwater Control Technologies****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on best practices in stormwater management including design, installation, construction, and maintenance. Topics include: porous pavements, subsurface infiltration, bioretention basins, wetlands, soil bioengineering, and cost effectiveness of methods. Students provide transportation to off-campus field trips.

Prerequisites: EVT 225

**EVT 257 Environmental Risk Assessment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course that utilizes risk assessment methods to evaluate and manage danger in the event of chemical, biological, or radiological exposure. Topics include: operational risk management approaches, and understanding toxicological values. Students provide transportation to off-campus field trips.

Prerequisites: EVT 160 and EVT 220

**EVT 291 Full-Time Cooperative Education 1: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EVT 292 Full-Time Cooperative Education 2: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 291

**EVT 293 Full-Time Cooperative Education 3: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 292

**EVT 294 Internship 1: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**EVT 295 Internship 2: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 294

## Environmental Engineering Technology - Stormwater Management Major (EVTs)

### Environmental Engineering Technology —Stormwater Management Major (EVTs)

The Environmental Engineering Technology - Stormwater Management Major prepares students to apply emerging technologies related to stormwater control. As water quality regulations become more stringent, environmental engineers and technicians must gain knowledge of stormwater management practices, including methods for targeting specific pollutants in order to maximize benefits to the watershed.

Graduates earn an Associate of Applied Science degree. Courses focus on environmental mapping, watershed management, stormwater management technologies, and restoration ecology. The program

also stresses effectively applying various stormwater management practices.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Environmental Engineering Technology —Stormwater Management Major (EVTs)

Semester 1		Lec	Lab	Credits
EVT 105	Environmental Sampling ( <b>B</b> )	2	3	3
EVS 110	Environmental Science: Conservation and Cleanup ( <b>G</b> )	3	2	4
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
CHE XXX	Chemistry Elective ( <b>B</b> )	3	3	4
MAT XXX	Mathematics Elective 1 ( <b>G</b> )	4	0	4
Semester 2				
EVT 150	Environmental Chemistry ( <b>B</b> )	2	3	3
EVT 155	Site Mapping and GIS ( <b>T</b> )	2	3	3
EVT 175	Watershed Management ( <b>T</b> )	2	3	3
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
EVS 120	Environmental Geology ( <b>T</b> )	3	2	4
Semester 3				
XXX XXX	Cooperative Education Elective ( <b>T</b> )	1	40	2
MAT XXX	Mathematics Elective 2 ( <b>B</b> )	4	0	4
Semester 4				
EVT 140	Environmental Regulations and Permits ( <b>T</b> )	1	2	2
EVT 225	Environmental Mapping ( <b>T</b> )	2	2	3
EVT 240	Fluid Mechanics ( <b>T</b> )	3	3	4
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
XXX XXX	Technical Elective ( <b>T</b> )	1	2	2
Semester 5				
EVT 170	Water and Wastewater Treatment and Analysis ( <b>T</b> )	3	3	4

EVT 255	Stormwater Control Technologies ( T )	2	2	3
EVT 235	Stormwater Management ( T )	2	2	3
XXX XXX	Arts/ Humanities or Social/ Behavioral Science Elective ( G )	3	0	3
<b>Semester 6</b>				
EVT 292	Full-Time Cooperative Education 2: Environmental Engineering Technology ( T )	1	40	2
Total Credits:		51	115	67

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Chemistry Elective

CHE 110	Fundamentals of Chemistry	4
CHE 121 & CHE 131	General Chemistry 1 and General Chemistry 1 Lab	5

### Mathematics Electives **8**

Select one of the following series:

MAT 125 & MAT 126	Algebra and Trigonometry and Functions and Calculus	8
MAT 151 & MAT 152	College Algebra and Trigonometry	8
MAT 251 & MAT 252	Calculus 1 and Calculus 2	10

### Cooperative Education Elective **2**

Select one of the following:

CIT 190 & EVT 191	Career Preparation: Engineering and Information Technologies and Part-Time Cooperative Education 1: Environmental Engineering Technology	2
EVT 191 & EVT 192	Part-Time Cooperative Education 1: Environmental Engineering Technology and Part-Time Cooperative Education 2: Environmental Engineering Technology	2
EVT 291	Full-Time Cooperative Education 1: Environmental Engineering Technology	2

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Technical Elective

Any EVT, EVS, CIT, LH, or other course approved by Program Chair		2
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### Arts/Humanities Elective or Social/Behavioral Science Elective

Any ART, CULT, FRN, LIT, MUS, PHI, REL, SPN, THE or, Any CRJ, ECO, GEO, HST, POL, PSY, SOC	3 3
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Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Environmental Engineering Technology (EVT, EVTS, EVTW)

- Ability to apply knowledge, techniques, skills, and modern tools in environmental engineering technology activities.
- Ability to apply a knowledge of mathematics, science, engineering, and technology to environmental engineering technology problems.
- Ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments.
- Ability to function effectively as a member of a technical team.
- Ability to identify, analyze, and solve environmental engineering technology problems.
- Ability to apply written, oral, and graphical communication; and ability to identify and use appropriate technical literature.
- Understanding of the need for self-directed continuing professional development.
- Understanding of and commitment to address professional and ethical responsibilities, including a respect for diversity.
- Commitment to quality, timeliness, and continuous improvement.

## Faculty

### Program Chair/Advisor

Ann Gunkel, PhD  
ann.gunkel@cincinnati.edu

### Co-op Coordinators

Jennifer Geiger, BS  
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### Advisors

Ann Fallon, MS  
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Carole Womeldorf, PhD  
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## EVS Courses

### **EVS 110 Environmental Science: Conservation and Cleanup** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on environmental science as it affects human activity and the environment. Topics include: drinking water and wastewater treatment, air pollution, energy, conservation, solid and hazardous waste management, and risk assessment. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

### **EVS 120 Environmental Geology** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the relationship of applied geology to the human environment. Topics include: plate tectonics, soils, groundwater and surface water, natural disasters and glacial geology, and resource protection from contamination. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

### **EVS 130 Environmental Science: Ecology and Ecosystems** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on environmental science and ecology. Topics include: types of ecosystems and how they function, elementary soil science, biodiversity, and population growth and sustainability. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

## EVT Courses

### **EVT 105 Environmental Sampling** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on sampling requirements and techniques. Topics include: sampling groundwater, surface water, drums, sediments, soil, and air; site assessment; and field testing. Students provide transportation to off-campus field trips. Students who complete the course successfully earn a USEPA certificate.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

### **EVT 115 OSHA 40-Hour Course** **3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the OSHA-specific requirements under 29 CFR 1910.120 for 40-Hour Hazardous Waste Site Training. Topics include: avoiding injury on a hazardous waste site, and basic concepts for health and safety programs. Students who complete the course successfully earn a certificate.

Prerequisites: ENG 085 and MAT 093 or appropriate placements  
Instructor Consent Required

### **EVT 125 Restoration Ecology: Sustainable Sites** **3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on environmental design principles and sustainable development. Topics include: federal, state, and local issues and standards; and managing introduced, exotic, and invasive species. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

### **EVT 135 Restoration Ecology: Rain Gardens** **3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on rain garden design and construction techniques that harvest rain water from local watersheds. Topics include: baseline analysis, site preparation, plant selection, and study of components in various ecoregions. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

### **EVT 140 Environmental Regulations and Permits** **2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on federal, state, and local environmental laws with emphasis on related computer concepts and applications. Topics include: TSCA, FIFRA, OSHA, CAA, CWA, SDWA, CERCLA, and RCRA.

Prerequisites: EVS 110 and (ENG 101 or ENQ REQC)

### **EVT 145 Restoration Ecology: Native Vegetation** **3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on native trees, shrubs, and vines that have commercial value for sustainable use. Topics include: proven landscape species, their uses in the tri-state area, and invasive species of various ecoregions. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

### **EVT 150 Environmental Chemistry** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on organic chemistry and chemical principles of environmental systems. Topics include: nomenclature, geochemistry, atmospheric chemistry, organic and inorganic air pollutants, toxicological chemistry, resources, energy, and analysis of environmental samples using chemical instrumentation.

Prerequisites: CHE 110 or CHE 121

### **EVT 155 Site Mapping and GIS** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on mapping techniques for the environmental field. Topics include: map concepts, coordinate systems, elevation contours, and terrain modeling. Course activities include manual drafting, basic principles of surveying, and an introduction to CAD and GIS software.

Prerequisites: MAT 125 or MAT 151 or appropriate placement

### **EVT 158 Fundamentals of Industrial Hygiene** **2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for recognizing, evaluating, and controlling health and safety hazards in the workplace. Topics include: radiation safety, noise, solvents, biological hazards, and video display terminal (VDT) hazards.

Prerequisites: EVS 110

### **EVT 160 Solid and Hazardous Waste Management** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for solid and hazardous waste disposal facilities. Topics include: waste minimization, composting, recycling, and landfilling; principles and practices for storage, transport, treatment, and disposal of hazardous wastes; regulations and permits; and emerging technologies. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110, and CHE 110 or CHE 121

**EVT 165 Calculations for Water Operators****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mathematical applications for water treatment plant processes including water sources and storage, coagulation and flocculation, sedimentation, filtration, chlorination, fluoridation, and softening. Topics include applied volume, flow, and velocity; chemical dosage; loading rates; detention and retention; and pumping.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 166 Calculations for Wastewater Operators****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on calculations for wastewater treatment applications. Topics include: volumes, flow, and velocity; conversions; pumping and loading rates; F/M ratio; sludge age; MCRT; and efficiency.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 168 Radiation Safety****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on radiation safety and protection. Topics include: the interaction of radiation with matter, biological effects, types of radioactivity, dosimetry, shielding calculations, and radiation measurements.

Prerequisites: EVS 110

**EVT 170 Water and Wastewater Treatment and Analysis****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on scientific and engineering principles for water quality control. Topics include: environmental microbiology; bioremediation; microbes as indicators of pollution; and physical, chemical, and biological analysis. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110, and CHE 110 or CHE 121

**EVT 171 Environmental Mountain Ecology 1****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on principles of ecology and pollutant dispersion as they pertain to mountain ecosystems, and the environmental impact of human activities on mountain ecosystems.

Prerequisites: EVT 105 and EVS 120

**EVT 172 Environmental Mountain Ecology 2****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A continuation of EVT 171. Students participate in field experience that includes a trip to the mountainous regions of the western United States. Students pay for travel-related expenses.

Prerequisites: EVT 171

Instructor Consent Required

**EVT 175 Watershed Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing watershed action plans. Topics include: water quality monitoring, stream bank stabilization, flood management strategies, habitat restoration, and control of combined and sanitary sewer overflow. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105, and CHE 110 or CHE 121

**EVT 180 Environmental Statistics****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on statistical methods used in environmental pollution monitoring. Topics include: computer concepts and applications emphasizing environmental data.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 185 Supervisory Management in Environmental Fields****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on concepts and practices of management as they apply to the environmental field. Topics include: problem solving, communication skills, delegation and motivation, unions, and manager-employee relationships.

Prerequisites: EVS 110 and ( ENG 101 or ENG REQC)

**EVT 187 Materials Transportation Safety and Security****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on safety and security during the transport of hazardous substances. Topics include: Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, Transportation Security Administration, aviation security, and shipping protocols. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105

**EVT 191 Part-Time Cooperative Education 1: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EVT 192 Part-Time Cooperative Education 2: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 191

**EVT 193 Part-Time Cooperative Education 3: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 192

**EVT 194 Part-Time Cooperative Education 4: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 193

**EVT 195 Part-Time Cooperative Education 5: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 194

**EVT 196 Part-Time Cooperative Education 6: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 195

**EVT 210 Industrial Waste Treatment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the responsibilities of the industrial wastewater treatment plant operator. Topics include: the activated sludge process, physical-chemical treatment, instrumentation, industrial waste monitoring, waste treatment processes, and maintenance.

Prerequisites: EVT 170

**EVT 215 Utilities Safety and Security****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the safety and security of the utility systems in the United States in the event of natural disasters or terrorist or wartime attack. Topics include: protection of drinking water systems, wastewater treatment systems, and energy supplies.

Prerequisites: EVT 170

**EVT 220 Air Pollution Control****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on monitoring permitting and control of air releases. Topics include: air quality management, health and environmental effects, indoor air pollution, pollen and mold counts, control and sampling equipment, stack testing, and data analysis. Students provide transportation to off-campus field trips.

Prerequisites: EVT 150

**EVT 225 Environmental Mapping****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mapping and resource inventory for the environmental field. Topics include: map projections, world coordinates, watershed delineation, GIS data analysis and queries, and remote sensing. Students use conventional surveying and GPS equipment for data collection, and computer mapping CAD and GIS software for data analysis.

Prerequisites: EVT 155

**EVT 230 Treatment Technologies****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and applications of mainstream treatment technologies used to prevent, monitor, and control pollution from industries and government facilities. Topics include: physical, chemical, thermal, and biological treatment methods. Students provide transportation to off-campus field trips.

Prerequisites: EVT 170

**EVT 235 Stormwater Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the infrastructure of stormwater control. Topics include: surface water hydrology, historical development of drainage control, FEMA and local flood design criteria and control methods, storm sewers, open channel, culvert conveyance, detention systems and calculations, and post-construction BMPs.

Prerequisites: EVT 225 and EVT 240

**EVT 237 Environmental Impact of Weapons of Mass Destruction****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on understanding weapons of mass destruction and recovery following an attack. Topics include: chemical and biological warfare agents; radiation dispersal devices; and detection, decontamination, and disposal of these agents. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105 and EVT 170

**EVT 240 Fluid Mechanics****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on engineering properties of fluids including kinematics and dynamics, fluid flow, buoyancy, and stability. Topics include: Bernoulli's equation and the energy equation; Reynold's number; energy losses; and series, parallel, and open channel flow.

Prerequisites: MAT 126 or MAT 152 or appropriate placement

**EVT 245 Operation of Water Treatment Plants****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on efficient operation of water treatment plants that helps students prepare for certification exams. Topics include: proper installation, inspection, operation, maintenance, repair, and management of water treatment plants; corrosion control; control of trihalomethanes; and water sample analysis.

Prerequisites: EVT 165

**EVT 246 Operation of Wastewater Treatment Plants****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on efficient operation of wastewater treatment plants that helps students prepare for certification exams. Topics include: start-up, daily operations, interpretation of lab results, and possible approaches to solving operational problems.

Prerequisites: EVT 166

**EVT 247 Advanced Sampling and Analysis****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on sampling equipment and methods used to evaluate hazards after natural disasters. Topics include: equipment and instruments used to detect biological and chemical warfare agents. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105 and EVT 170

**EVT 250 Water Collection and Distribution Systems****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on operating and controlling water delivery and wastewater collection systems. Topics include: gravity and pumped lines; storage and holding tanks; pumps; system monitoring, repair, and rehabilitation; water system depressurization; backflow prevention; metering; sewer overflows; and gaseous buildup.

Prerequisites: EVT 240

**EVT 255 Stormwater Control Technologies****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on best practices in stormwater management including design, installation, construction, and maintenance. Topics include: porous pavements, subsurface infiltration, bioretention basins, wetlands, soil bioengineering, and cost effectiveness of methods. Students provide transportation to off-campus field trips.  
Prerequisites: EVT 225

**EVT 257 Environmental Risk Assessment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course that utilizes risk assessment methods to evaluate and manage danger in the event of chemical, biological, or radiological exposure. Topics include: operational risk management approaches, and understanding toxicological values. Students provide transportation to off-campus field trips.  
Prerequisites: EVT 160 and EVT 220

**EVT 291 Full-Time Cooperative Education 1: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

**EVT 292 Full-Time Cooperative Education 2: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: EVT 291

**EVT 293 Full-Time Cooperative Education 3: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: EVT 292

**EVT 294 Internship 1: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CIT 190

**EVT 295 Internship 2: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: EVT 294

# Environmental Engineering Technology - Water and Wastewater Major (EVTW)

## Environmental Engineering Technology —Water and Wastewater Major (EVTW)

The Environmental Engineering Technology - Water and Wastewater Major emphasizes water and wastewater treatment, and the operation and design of water and wastewater treatment facilities. Courses focus on biological, physical, and chemical treatment processes; collection and distribution systems; calculations for water and wastewater personnel, safety, and statistics; and quality assurance and control.

Graduates of the Environmental Engineering Technology - Water and Wastewater Major earn an Associate of Applied Science degree and are prepared to work at municipal water and wastewater treatment plants; industrial wastewater treatment facilities; federal, state, and local government agencies; private civil and environmental engineering consulting firms; and water and wastewater analytical labs.

Most curriculum courses, not including cooperative education courses, meet Ohio Environmental Protection Agency requirements for license renewal (U.S. EPA External Provider).

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Environmental Engineering Technology —Water and Wastewater Major (EVTW)

Semester 1		Lec	Lat	Credits
EVT 105	Environmental Sampling ( B )	2	3	3
EVS 110	Environmental Science: Conservation and Cleanup ( G )	3	2	4
ENG 101	English Composition 1 ( G )	3	0	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
CHE XXX	Chemistry Elective ( B )	4	0	4
MAT XXX	Mathematics Elective 1 ( G )	4	0	4
Semester 2				
EVT 140	Environmental Regulations and Permits ( T )	1	2	2
EVT 150	Environmental Chemistry ( B )	2	3	3
EVT 170	Water and Wastewater Treatment and Analysis ( T )	3	3	4



MAT XXX Mathematics Elective 2 (B)		4	0	4
EVT 16X Calculations for Operators Elective (T)		2	2	3
<b>Semester 3</b>				
XXX XXX Cooperative Education Elective (T)		1	40	2
<b>Semester 4</b>				
EVT 185 Supervisory Management in Environmental Fields (T)		1	2	2
EVT 215 Utilities Safety and Security (T)		1	2	2
EVT 230 Treatment Technologies (T)		2	2	3
EVT 240 Fluid Mechanics (T)		3	3	4
EVT 24X Operations of Treatment Plants Elective (T)		2	2	3
<b>Semester 5</b>				
EVT 292 Full-Time Cooperative Education 2: Environmental Engineering Technology (T)		1	40	2
<b>Semester 6</b>				
EVT 155 Site Mapping and GIS (T)		2	3	3
EVT 250 Water Collection and Distribution Systems (T)		2	2	3
ENG 10X English Composition Elective (G)		3	0	3
XXX XXX Statistics Elective (T)		1	2	2
XXX XXX Arts/ Humanities or Social/ Behavioral Science Elective (G)		3	0	3
Total Credits:		51	113	67

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Chemistry Elective

CHE 110	Fundamentals of Chemistry	4
CHE 121 & CHE 131	General Chemistry 1 and General Chemistry 1 Lab	5

### Mathematics Electives 8

Select one of the following series:

MAT 125 & MAT 126	Algebra and Trigonometry and Functions and Calculus	8
MAT 151 & MAT 152	College Algebra and Trigonometry	8
MAT 251 & MAT 252	Calculus 1 and Calculus 2	10

### Calculations for Operators Elective

EVT 165	Calculations for Water Operators	3
EVT 166	Calculations for Wastewater Operators	3

### Cooperative Education Elective 2

Select one of the following:

CIT 190 & EVT 191	Career Preparation: Engineering and Information Technologies and Part-Time Cooperative Education 1: Environmental Engineering Technology	2
EVT 191 & EVT 192	Part-Time Cooperative Education 1: Environmental Engineering Technology and Part-Time Cooperative Education 2: Environmental Engineering Technology	2
EVT 291	Full-Time Cooperative Education 1: Environmental Engineering Technology	2

### Operations of Treatment Plants Elective

EVT 245	Operation of Water Treatment Plants	3
EVT 246	Operation of Wastewater Treatment Plants	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Statistics Elective

EVT 180	Environmental Statistics	2
MAT 131	Statistics 1	3

### Arts/Humanities Elective or Social/Behavioral Science Elective

Any ART, CULT, FRN, LIT, MUS, PHI, REL, SPN, THE or, Any CRJ, ECO, GEO, HST, POL, PSY, SOC		3
		3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Environmental Engineering Technology (EVT, EVTS, EVTW)

- Ability to apply knowledge, techniques, skills, and modern tools in environmental engineering technology activities.
- Ability to apply a knowledge of mathematics, science, engineering, and technology to environmental engineering technology problems.
- Ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments.
- Ability to function effectively as a member of a technical team.
- Ability to identify, analyze, and solve environmental engineering technology problems.
- Ability to apply written, oral, and graphical communication; and ability to identify and use appropriate technical literature.
- Understanding of the need for self-directed continuing professional development.
- Understanding of and commitment to address professional and ethical responsibilities, including a respect for diversity.
- Commitment to quality, timeliness, and continuous improvement.

### Faculty

#### Program Chair/Advisor

Ann Gunkel, PhD  
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#### Co-op Coordinators

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#### Advisors

Ann Fallon, MS  
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Carole Womeldorf, PhD  
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### EVS Courses

#### EVS 110 Environmental Science: Conservation and Cleanup 4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on environmental science as it affects human activity and the environment. Topics include: drinking water and wastewater treatment, air pollution, energy, conservation, solid and hazardous waste management, and risk assessment. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

#### EVS 120 Environmental Geology

##### 4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on the relationship of applied geology to the human environment. Topics include: plate tectonics, soils, groundwater and surface water, natural disasters and glacial geology, and resource protection from contamination. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

#### EVS 130 Environmental Science: Ecology and Ecosystems

##### 4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on environmental science and ecology. Topics include: types of ecosystems and how they function, elementary soil science, biodiversity, and population growth and sustainability. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

### EVT Courses

#### EVT 105 Environmental Sampling

##### 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A course on sampling requirements and techniques. Topics include: sampling groundwater, surface water, drums, sediments, soil, and air; site assessment; and field testing. Students provide transportation to off-campus field trips. Students who complete the course successfully earn a USEPA certificate.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

#### EVT 115 OSHA 40-Hour Course

##### 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on the OSHA-specific requirements under 29 CFR 1910.120 for 40-Hour Hazardous Waste Site Training. Topics include: avoiding injury on a hazardous waste site, and basic concepts for health and safety programs. Students who complete the course successfully earn a certificate.

Prerequisites: ENG 085 and MAT 093 or appropriate placements  
Instructor Consent Required

#### EVT 125 Restoration Ecology: Sustainable Sites

##### 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on environmental design principles and sustainable development. Topics include: federal, state, and local issues and standards; and managing introduced, exotic, and invasive species. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

#### EVT 135 Restoration Ecology: Rain Gardens

##### 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on rain garden design and construction techniques that harvest rain water from local watersheds. Topics include: baseline analysis, site preparation, plant selection, and study of components in various ecoregions. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

#### EVT 140 Environmental Regulations and Permits

##### 2 Credits. 1 Lecture Hour. 2 Lab Hours.

A course on federal, state, and local environmental laws with emphasis on related computer concepts and applications. Topics include: TSCA, FIFRA, OSHA, CAA, CWA, SDWA, CERCLA, and RCRA.

Prerequisites: EVS 110 and (ENG 101 or ENQ REQC)

**EVT 145 Restoration Ecology: Native Vegetation****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on native trees, shrubs, and vines that have commercial value for sustainable use. Topics include: proven landscape species, their uses in the tri-state area, and invasive species of various ecoregions. Students provide transportation to off-campus field trips.  
Prerequisites: EVS 110 or EVS 130

**EVT 150 Environmental Chemistry****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on organic chemistry and chemical principles of environmental systems. Topics include: nomenclature, geochemistry, atmospheric chemistry, organic and inorganic air pollutants, toxicological chemistry, resources, energy, and analysis of environmental samples using chemical instrumentation.  
Prerequisites: CHE 110 or CHE 121

**EVT 155 Site Mapping and GIS****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on mapping techniques for the environmental field. Topics include: map concepts, coordinate systems, elevation contours, and terrain modeling. Course activities include manual drafting, basic principles of surveying, and an introduction to CAD and GIS software.  
Prerequisites: MAT 125 or MAT 151 or appropriate placement

**EVT 158 Fundamentals of Industrial Hygiene****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for recognizing, evaluating, and controlling health and safety hazards in the workplace. Topics include: radiation safety, noise, solvents, biological hazards, and video display terminal (VDT) hazards.  
Prerequisites: EVS 110

**EVT 160 Solid and Hazardous Waste Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for solid and hazardous waste disposal facilities. Topics include: waste minimization, composting, recycling, and landfilling; principles and practices for storage, transport, treatment, and disposal of hazardous wastes; regulations and permits; and emerging technologies. Students provide transportation to off-campus field trips.  
Prerequisites: EVS 110, and CHE 110 or CHE 121

**EVT 165 Calculations for Water Operators****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mathematical applications for water treatment plant processes including water sources and storage, coagulation and flocculation, sedimentation, filtration, chlorination, fluoridation, and softening. Topics include applied volume, flow, and velocity; chemical dosage; loading rates; detention and retention; and pumping.  
Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 166 Calculations for Wastewater Operators****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on calculations for wastewater treatment applications. Topics include: volumes, flow, and velocity; conversions; pumping and loading rates; F/M ratio; sludge age; MCRT; and efficiency.  
Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 168 Radiation Safety****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on radiation safety and protection. Topics include: the interaction of radiation with matter, biological effects, types of radioactivity, dosimetry, shielding calculations, and radiation measurements.  
Prerequisites: EVS 110

**EVT 170 Water and Wastewater Treatment and Analysis****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on scientific and engineering principles for water quality control. Topics include: environmental microbiology; bioremediation; microbes as indicators of pollution; and physical, chemical, and biological analysis. Students provide transportation to off-campus field trips.  
Prerequisites: EVS 110, and CHE 110 or CHE 121

**EVT 171 Environmental Mountain Ecology 1****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on principles of ecology and pollutant dispersion as they pertain to mountain ecosystems, and the environmental impact of human activities on mountain ecosystems.  
Prerequisites: EVT 105 and EVS 120

**EVT 172 Environmental Mountain Ecology 2****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A continuation of EVT 171. Students participate in field experience that includes a trip to the mountainous regions of the western United States. Students pay for travel-related expenses.  
Prerequisites: EVT 171

Instructor Consent Required

**EVT 175 Watershed Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing watershed action plans. Topics include: water quality monitoring, stream bank stabilization, flood management strategies, habitat restoration, and control of combined and sanitary sewer overflow. Students provide transportation to off-campus field trips.  
Prerequisites: EVT 105, and CHE 110 or CHE 121

**EVT 180 Environmental Statistics****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on statistical methods used in environmental pollution monitoring. Topics include: computer concepts and applications emphasizing environmental data.  
Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 185 Supervisory Management in Environmental Fields****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on concepts and practices of management as they apply to the environmental field. Topics include: problem solving, communication skills, delegation and motivation, unions, and manager-employee relationships.  
Prerequisites: EVS 110 and ( ENG 101 or ENG REQC)

**EVT 187 Materials Transportation Safety and Security****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on safety and security during the transport of hazardous substances. Topics include: Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, Transportation Security Administration, aviation security, and shipping protocols. Students provide transportation to off-campus field trips.  
Prerequisites: EVT 105

**EVT 191 Part-Time Cooperative Education 1: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EVT 192 Part-Time Cooperative Education 2: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 191

**EVT 193 Part-Time Cooperative Education 3: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 192

**EVT 194 Part-Time Cooperative Education 4: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 193

**EVT 195 Part-Time Cooperative Education 5: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 194

**EVT 196 Part-Time Cooperative Education 6: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 195

**EVT 210 Industrial Waste Treatment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the responsibilities of the industrial wastewater treatment plant operator. Topics include: the activated sludge process, physical-chemical treatment, instrumentation, industrial waste monitoring, waste treatment processes, and maintenance.

Prerequisites: EVT 170

**EVT 215 Utilities Safety and Security****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the safety and security of the utility systems in the United States in the event of natural disasters or terrorist or wartime attack.

Topics include: protection of drinking water systems, wastewater treatment systems, and energy supplies.

Prerequisites: EVT 170

**EVT 220 Air Pollution Control****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on monitoring permitting and control of air releases. Topics include: air quality management, health and environmental effects, indoor air pollution, pollen and mold counts, control and sampling equipment, stack testing, and data analysis. Students provide transportation to off-campus field trips.

Prerequisites: EVT 150

**EVT 225 Environmental Mapping****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mapping and resource inventory for the environmental field. Topics include: map projections, world coordinates, watershed delineation, GIS data analysis and queries, and remote sensing. Students use conventional surveying and GPS equipment for data collection, and computer mapping CAD and GIS software for data analysis.

Prerequisites: EVT 155

**EVT 230 Treatment Technologies****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and applications of mainstream treatment technologies used to prevent, monitor, and control pollution from industries and government facilities. Topics include: physical, chemical, thermal, and biological treatment methods. Students provide transportation to off-campus field trips.

Prerequisites: EVT 170

**EVT 235 Stormwater Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the infrastructure of stormwater control. Topics include: surface water hydrology, historical development of drainage control, FEMA and local flood design criteria and control methods, storm sewers, open channel, culvert conveyance, detention systems and calculations, and post-construction BMPs.

Prerequisites: EVT 225 and EVT 240

**EVT 237 Environmental Impact of Weapons of Mass Destruction****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on understanding weapons of mass destruction and recovery following an attack. Topics include: chemical and biological warfare agents; radiation dispersal devices; and detection, decontamination, and disposal of these agents. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105 and EVT 170

**EVT 240 Fluid Mechanics****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on engineering properties of fluids including kinematics and dynamics, fluid flow, buoyancy, and stability. Topics include: Bernoulli's equation and the energy equation; Reynold's number; energy losses; and series, parallel, and open channel flow.

Prerequisites: MAT 126 or MAT 152 or appropriate placement

**EVT 245 Operation of Water Treatment Plants****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on efficient operation of water treatment plants that helps students prepare for certification exams. Topics include: proper installation, inspection, operation, maintenance, repair, and management of water treatment plants; corrosion control; control of trihalomethanes; and water sample analysis.

Prerequisites: EVT 165

**EVT 246 Operation of Wastewater Treatment Plants****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on efficient operation of wastewater treatment plants that helps students prepare for certification exams. Topics include: start-up, daily operations, interpretation of lab results, and possible approaches to solving operational problems.

Prerequisites: EVT 166

**EVT 247 Advanced Sampling and Analysis****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on sampling equipment and methods used to evaluate hazards after natural disasters. Topics include: equipment and instruments used to detect biological and chemical warfare agents. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105 and EVT 170

**EVT 250 Water Collection and Distribution Systems****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on operating and controlling water delivery and wastewater collection systems. Topics include: gravity and pumped lines; storage and holding tanks; pumps; system monitoring, repair, and rehabilitation; water system depressurization; backflow prevention; metering; sewer overflows; and gaseous buildup.

Prerequisites: EVT 240

**EVT 255 Stormwater Control Technologies****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on best practices in stormwater management including design, installation, construction, and maintenance. Topics include: porous pavements, subsurface infiltration, bioretention basins, wetlands, soil bioengineering, and cost effectiveness of methods. Students provide transportation to off-campus field trips.

Prerequisites: EVT 225

**EVT 257 Environmental Risk Assessment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course that utilizes risk assessment methods to evaluate and manage danger in the event of chemical, biological, or radiological exposure. Topics include: operational risk management approaches, and understanding toxicological values. Students provide transportation to off-campus field trips.

Prerequisites: EVT 160 and EVT 220

**EVT 291 Full-Time Cooperative Education 1: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EVT 292 Full-Time Cooperative Education 2: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 291

**EVT 293 Full-Time Cooperative Education 3: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 292

**EVT 294 Internship 1: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**EVT 295 Internship 2: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 294

## Environmental Safety and Security Certificate (EVTSC)

### Environmental Safety and Security Certificate (EVTSC)

The Environmental Safety and Security Certificate develops skills that are used in fields associated with protecting the nation during natural disaster, war, or terrorist attack. These career areas include disaster preparedness, utilities safety and security, transportation safety and security, law enforcement, and research.

Additionally, graduates of this certificate program can help prepare staff members who ensure the safety of personnel in business, government, and educational organizations.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Environmental Safety and Security Certificate (EVTSC)

Semester 1		Lec	LatCredits	
EVT 105	Environmental Sampling	2	3	3
EVS 110	Environmental Science: Conservation and Cleanup	3	2	4
CHE 110	Fundamentals of Chemistry	3	3	4
EVT 220	Air Pollution Control	2	3	3
Semester 2				
EVT 160	Solid and Hazardous Waste Management	2	3	3
EVT 170	Water and Wastewater Treatment and Analysis	3	3	4
EVT 215	Utilities Safety and Security	1	2	2
EVT 257	Environmental Risk Assessment	1	2	2
Semester 3				
EVT 187	Materials Transportation Safety and Security	1	2	2
EVT 237	Environmental Impact of Weapons of Mass Destruction	1	2	2
EVT XXX	Environmental Engineering Technology Elective	1	2	2
Total Credits:		20	27	31

## Electives

### Environmental Engineering Technology Elective (select one course)

EVT 115	OSHA 40-Hour Course	3
EVT 158	Fundamentals of Industrial Hygiene	2
EVT 168	Radiation Safety	2
EVT 210	Industrial Waste Treatment	2
EVT 247	Advanced Sampling and Analysis	2

Other courses may be approved by EVT Program Chair

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Program Chair/Advisor

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## Advisors

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Carole Womeldorf, PhD  
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## EVS Courses

### EVS 110 Environmental Science: Conservation and Cleanup 4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on environmental science as it affects human activity and the environment. Topics include: drinking water and wastewater treatment, air pollution, energy, conservation, solid and hazardous waste management, and risk assessment. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

### EVS 120 Environmental Geology 4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on the relationship of applied geology to the human environment. Topics include: plate tectonics, soils, groundwater and surface water, natural disasters and glacial geology, and resource protection from contamination. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

### EVS 130 Environmental Science: Ecology and Ecosystems 4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on environmental science and ecology. Topics include: types of ecosystems and how they function, elementary soil science, biodiversity, and population growth and sustainability. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

## EVT Courses

### EVT 105 Environmental Sampling 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A course on sampling requirements and techniques. Topics include: sampling groundwater, surface water, drums, sediments, soil, and air; site assessment; and field testing. Students provide transportation to off-campus field trips. Students who complete the course successfully earn a USEPA certificate.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

### EVT 115 OSHA 40-Hour Course 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on the OSHA-specific requirements under 29 CFR 1910.120 for 40-Hour Hazardous Waste Site Training. Topics include: avoiding injury on a hazardous waste site, and basic concepts for health and safety programs. Students who complete the course successfully earn a certificate.

Prerequisites: ENG 085 and MAT 093 or appropriate placements  
Instructor Consent Required

**EVT 125 Restoration Ecology: Sustainable Sites****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on environmental design principles and sustainable development. Topics include: federal, state, and local issues and standards; and managing introduced, exotic, and invasive species. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

**EVT 135 Restoration Ecology: Rain Gardens****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on rain garden design and construction techniques that harvest rain water from local watersheds. Topics include: baseline analysis, site preparation, plant selection, and study of components in various ecoregions. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

**EVT 140 Environmental Regulations and Permits****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on federal, state, and local environmental laws with emphasis on related computer concepts and applications. Topics include: TSCA, FIFRA, OSHA, CAA, CWA, SDWA, CERCLA, and RCRA.

Prerequisites: EVS 110 and (ENG 101 or ENQ REQC)

**EVT 145 Restoration Ecology: Native Vegetation****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on native trees, shrubs, and vines that have commercial value for sustainable use. Topics include: proven landscape species, their uses in the tri-state area, and invasive species of various ecoregions. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

**EVT 150 Environmental Chemistry****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on organic chemistry and chemical principles of environmental systems. Topics include: nomenclature, geochemistry, atmospheric chemistry, organic and inorganic air pollutants, toxicological chemistry, resources, energy, and analysis of environmental samples using chemical instrumentation.

Prerequisites: CHE 110 or CHE 121

**EVT 155 Site Mapping and GIS****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on mapping techniques for the environmental field. Topics include: map concepts, coordinate systems, elevation contours, and terrain modeling. Course activities include manual drafting, basic principles of surveying, and an introduction to CAD and GIS software.

Prerequisites: MAT 125 or MAT 151 or appropriate placement

**EVT 158 Fundamentals of Industrial Hygiene****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for recognizing, evaluating, and controlling health and safety hazards in the workplace. Topics include: radiation safety, noise, solvents, biological hazards, and video display terminal (VDT) hazards.

Prerequisites: EVS 110

**EVT 160 Solid and Hazardous Waste Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for solid and hazardous waste disposal facilities. Topics include: waste minimization, composting, recycling, and landfilling; principles and practices for storage, transport, treatment, and disposal of hazardous wastes; regulations and permits; and emerging technologies. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110, and CHE 110 or CHE 121

**EVT 165 Calculations for Water Operators****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mathematical applications for water treatment plant processes including water sources and storage, coagulation and flocculation, sedimentation, filtration, chlorination, fluoridation, and softening. Topics include applied volume, flow, and velocity; chemical dosage; loading rates; detention and retention; and pumping.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 166 Calculations for Wastewater Operators****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on calculations for wastewater treatment applications. Topics include: volumes, flow, and velocity; conversions; pumping and loading rates; F/M ratio; sludge age; MCRT; and efficiency.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 168 Radiation Safety****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on radiation safety and protection. Topics include: the interaction of radiation with matter, biological effects, types of radioactivity, dosimetry, shielding calculations, and radiation measurements.

Prerequisites: EVS 110

**EVT 170 Water and Wastewater Treatment and Analysis****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on scientific and engineering principles for water quality control. Topics include: environmental microbiology; bioremediation; microbes as indicators of pollution; and physical, chemical, and biological analysis. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110, and CHE 110 or CHE 121

**EVT 171 Environmental Mountain Ecology 1****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on principles of ecology and pollutant dispersion as they pertain to mountain ecosystems, and the environmental impact of human activities on mountain ecosystems.

Prerequisites: EVT 105 and EVS 120

**EVT 172 Environmental Mountain Ecology 2****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A continuation of EVT 171. Students participate in field experience that includes a trip to the mountainous regions of the western United States. Students pay for travel-related expenses.

Prerequisites: EVT 171

Instructor Consent Required

**EVT 175 Watershed Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing watershed action plans. Topics include: water quality monitoring, stream bank stabilization, flood management strategies, habitat restoration, and control of combined and sanitary sewer overflow. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105, and CHE 110 or CHE 121

**EVT 180 Environmental Statistics****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on statistical methods used in environmental pollution monitoring. Topics include: computer concepts and applications emphasizing environmental data.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 185 Supervisory Management in Environmental Fields****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on concepts and practices of management as they apply to the environmental field. Topics include: problem solving, communication skills, delegation and motivation, unions, and manager-employee relationships.

Prerequisites: EVS 110 and ( ENG 101 or ENG REQC)

**EVT 187 Materials Transportation Safety and Security****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on safety and security during the transport of hazardous substances. Topics include: Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, Transportation Security Administration, aviation security, and shipping protocols. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105

**EVT 191 Part-Time Cooperative Education 1: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EVT 192 Part-Time Cooperative Education 2: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 191

**EVT 193 Part-Time Cooperative Education 3: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 192

**EVT 194 Part-Time Cooperative Education 4: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 193

**EVT 195 Part-Time Cooperative Education 5: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 194

**EVT 196 Part-Time Cooperative Education 6: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 195

**EVT 210 Industrial Waste Treatment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the responsibilities of the industrial wastewater treatment plant operator. Topics include: the activated sludge process, physical-chemical treatment, instrumentation, industrial waste monitoring, waste treatment processes, and maintenance.

Prerequisites: EVT 170

**EVT 215 Utilities Safety and Security****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the safety and security of the utility systems in the United States in the event of natural disasters or terrorist or wartime attack. Topics include: protection of drinking water systems, wastewater treatment systems, and energy supplies.

Prerequisites: EVT 170

**EVT 220 Air Pollution Control****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on monitoring permitting and control of air releases. Topics include: air quality management, health and environmental effects, indoor air pollution, pollen and mold counts, control and sampling equipment, stack testing, and data analysis. Students provide transportation to off-campus field trips.

Prerequisites: EVT 150

**EVT 225 Environmental Mapping****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mapping and resource inventory for the environmental field. Topics include: map projections, world coordinates, watershed delineation, GIS data analysis and queries, and remote sensing. Students use conventional surveying and GPS equipment for data collection, and computer mapping CAD and GIS software for data analysis.

Prerequisites: EVT 155

**EVT 230 Treatment Technologies****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and applications of mainstream treatment technologies used to prevent, monitor, and control pollution from industries and government facilities. Topics include: physical, chemical, thermal, and biological treatment methods. Students provide transportation to off-campus field trips.

Prerequisites: EVT 170



**EVT 235 Stormwater Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the infrastructure of stormwater control. Topics include: surface water hydrology, historical development of drainage control, FEMA and local flood design criteria and control methods, storm sewers, open channel, culvert conveyance, detention systems and calculations, and post-construction BMPs.

Prerequisites: EVT 225 and EVT 240

**EVT 237 Environmental Impact of Weapons of Mass Destruction****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on understanding weapons of mass destruction and recovery following an attack. Topics include: chemical and biological warfare agents; radiation dispersal devices; and detection, decontamination, and disposal of these agents. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105 and EVT 170

**EVT 240 Fluid Mechanics****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on engineering properties of fluids including kinematics and dynamics, fluid flow, buoyancy, and stability. Topics include: Bernoulli's equation and the energy equation; Reynold's number; energy losses; and series, parallel, and open channel flow.

Prerequisites: MAT 126 or MAT 152 or appropriate placement

**EVT 245 Operation of Water Treatment Plants****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on efficient operation of water treatment plants that helps students prepare for certification exams. Topics include: proper installation, inspection, operation, maintenance, repair, and management of water treatment plants; corrosion control; control of trihalomethanes; and water sample analysis.

Prerequisites: EVT 165

**EVT 246 Operation of Wastewater Treatment Plants****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on efficient operation of wastewater treatment plants that helps students prepare for certification exams. Topics include: start-up, daily operations, interpretation of lab results, and possible approaches to solving operational problems.

Prerequisites: EVT 166

**EVT 247 Advanced Sampling and Analysis****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on sampling equipment and methods used to evaluate hazards after natural disasters. Topics include: equipment and instruments used to detect biological and chemical warfare agents. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105 and EVT 170

**EVT 250 Water Collection and Distribution Systems****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on operating and controlling water delivery and wastewater collection systems. Topics include: gravity and pumped lines; storage and holding tanks; pumps; system monitoring, repair, and rehabilitation; water system depressurization; backflow prevention; metering; sewer overflows; and gaseous buildup.

Prerequisites: EVT 240

**EVT 255 Stormwater Control Technologies****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on best practices in stormwater management including design, installation, construction, and maintenance. Topics include: porous pavements, subsurface infiltration, bioretention basins, wetlands, soil bioengineering, and cost effectiveness of methods. Students provide transportation to off-campus field trips.

Prerequisites: EVT 225

**EVT 257 Environmental Risk Assessment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course that utilizes risk assessment methods to evaluate and manage danger in the event of chemical, biological, or radiological exposure. Topics include: operational risk management approaches, and understanding toxicological values. Students provide transportation to off-campus field trips.

Prerequisites: EVT 160 and EVT 220

**EVT 291 Full-Time Cooperative Education 1: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EVT 292 Full-Time Cooperative Education 2: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 291

**EVT 293 Full-Time Cooperative Education 3: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 292

**EVT 294 Internship 1: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**EVT 295 Internship 2: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 294

## Civil Engineering Technologies

Civil engineering deals with the planning, design, construction, and maintenance of buildings, houses, roads, bridges, and public utilities.

Every construction project involves civil engineers and support technicians engaged in many different capacities, including design, supervision, and inspection.

Civil engineering technology harnesses the power of advanced computer technologies in the fields of visualization, measurement, and planning to deliver high quality projects. The civil engineering technician is constantly adapting the latest technological tools to solve problems that serve clients and the public at large.

The Civil Engineering Technologies Department at Cincinnati State offers three programs leading to an associate's degree:

- **The Architectural major (CETAO)** focuses on the design of building systems, including lighting, HVAC, mechanical, and electrical systems. Graduates use their expertise in computer-aided drafting (CAD) to modify and finalize an architect's or engineer's detailed design plan.
- **The Construction Management major (CETCO)** concentrates on understanding project documentation, building methods and materials, estimating, scheduling, and team dynamics. Graduates have the skills necessary to successfully deliver a construction project.
- **The Surveying major (CETSO)** emphasizes operation of state-of-the-art surveying equipment and computer software to collect data and propose solutions in boundary resolution, subdivision design, construction layout, and control networks.

All of these programs prepare graduates to successfully pursue a bachelor's degree in a related academic area, and to enter the workforce and advance professionally through technical and management positions in industry.

Students who complete the Surveying major may continue in Cincinnati State's Bachelor of Applied Science in Land Surveying (p. 191).

Courses are scheduled to meet the needs of traditional full-time students as well as part-time students, who can earn an associate's degree while attending classes two nights per week.

The department also offers certificates for educational and professional advancement in surveying.

- **The Advanced Land Surveying Certificate (ASC)** serves as a conduit for graduates of an accredited associate's degree surveying program to earn a surveying-focused bachelor's degree at Northern Kentucky University.
- **The Land Surveying Certificate (LSC)** is designed for graduates and students in bachelor's degree civil engineering programs who wish to be eligible for the professional surveyor examinations in the State of Ohio.

The Civil Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21202-4012. Phone (410) 347-7700.

Additionally, the Construction Management major has earned accreditation from the American Council for Construction Education (ACCE), making it the only program in the United States to hold both accreditations.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

## Architectural Major (CETAO)

### Civil Engineering Technology— Architectural Major (CETAO)

The Civil Engineering Technology - Architectural Major prepares graduates to bridge the gap between the architect and design engineer by filling support positions in architectural and engineering firms and assisting in the design of architectural, mechanical, electrical, and lighting systems for buildings.

Graduates earn an Associate of Applied Science degree. To prepare students for the current needs of the profession, the curriculum provides fundamental knowledge of building information modeling and computer aided design (CAD) using Revit Architecture and Revit MEP software for design and construction of architectural, mechanical, and lighting systems.

In addition, students gain knowledge of construction methods and principles, architectural drafting and design, and the structural design involved in building construction.

The Civil Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, 415 North Charles Street, Baltimore, MD 21201 Phone (410) 347-7700. Website: <http://www.abet.org>

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Civil Engineering Technology— Architectural Major (CETAO)

Semester 1		Lec	Lat	Credits
CET 100	Introduction to Civil Engineering Technology ( <b>B</b> )	2	2	3
CET 105	Introduction to Surveying ( <b>B</b> )	2	3	3
CET 115	Architectural Drafting and Computer Aided Design ( <b>B</b> )	2	4	4
MAT 125	Algebra and Trigonometry ( <b>G</b> )	3	2	4
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
Semester 2				
CET 120	Advanced Computer Aided Design: Revit Architecture ( <b>T</b> )	3	3	4
CET 125	Statics and Strength of Materials (CET) ( <b>T</b> )	3	3	4
CET 130	Building Codes and Materials ( <b>T</b> )	2	2	3
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
Semester 3				

CET 291	Full-Time Cooperative Education 1: Civil Engineering Technology ( <b>T</b> )	1	40	2
PHY 151	Physics 1: Algebra and Trigonometry-Based ( <b>G</b> )	3	3	4
<b>Semester 4</b>				
CET 205	Architectural Design and 3D Modeling: Revit Architecture ( <b>T</b> )	3	3	4
CET 211	Advanced Revit: Mechanical ( <b>T</b> )	3	3	4
MAT 126	Functions and Calculus ( <b>B</b> )	3	2	4
CET 212	Advanced Revit: Electrical ( <b>T</b> )	3	3	4
<b>Semester 5</b>				
COMM 110	Public Speaking ( <b>B</b> )	3	0	3
ECO 110	Principles of Macroeconomics ( <b>G</b> )	3	0	3
CET 200	Structural Design ( <b>T</b> )	3	3	4
CET 280	Civil Engineering Technology Architectural Capstone ( <b>T</b> )	2	6	4
<b>Semester 6</b>				
CET 292	Full-Time Cooperative Education 2: Civil Engineering Technology ( <b>T</b> )	1	40	2
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
Total Credits:		52	122	70

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Civil Engineering Technologies (CETAO, CETCO, CETSO)

### ACCE

- Demonstrate effective communication, both orally and in writing.
- Demonstrate the ability to estimate quantities and costs for the bidding process in a construction project.
- Demonstrate the ability to schedule a basic construction project.
- Demonstrate the ability to use current technology related to the construction process.
- Interpret construction documents (contracts, specifications, and drawings) used in managing a construction project.
- Apply basic principles of construction accounting.
- Use basic surveying techniques used in building layout.
- Discuss basic principles of ethics in the construction industry.
- Identify the fundamentals of contracts, codes, and regulations that govern a construction project.
- Recognize basic construction methods, materials, and equipment.
- Recognize basic safety hazards on a construction site and standard prevention measures.
- Recognize the basic principles of structural design.
- Recognize the basic principles of mechanical, electrical, and piping systems.

### ABET

- Ability to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities.
- Ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge.
- Ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments.
- Ability to function effectively as a member of a technical team.
- Ability to identify, analyze, and solve narrowly defined engineering technology problems.
- Ability to apply written, oral, and graphical communication in both technical and non-technical environments; and ability to identify and use appropriate technical literature.
- Understanding of the need for and ability to engage in self-directed continuing professional development.
- Understanding of and commitment to address professional and ethical responsibilities, including a respect for diversity.
- Commitment to quality, timeliness, and continuous improvement.

## Faculty

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## Courses

### **CET 100 Introduction to Civil Engineering Technology**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on foundation concepts in civil engineering technology. Topics include: CET program and curriculum, career preparation, licensing, ethics, diversity, and OSHA. Students use Microsoft Word, Excel, and Powerpoint to complete assignments.  
Prerequisites: None

### **CET 105 Introduction to Surveying**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on foundation concepts of land surveying and site planning. Topics include: angle, distance, and elevation measurement; contours; and mapping and site planning fundamentals. Students complete outdoor field exercises and manual drafting lab exercises.  
Prerequisites: MAT 121 or appropriate placement  
Ohio Transfer Assurance Guide Approved

### **CET 107 Construction Health and Safety**

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

An introduction to construction safety. Topics include: risk management, safety hazards, the Code of Federal Regulations, and OSHA Construction Industry Standards outlined in Federal Code 29 CFR Part 1926. Students who complete the course successfully earn the OSHA 30-hour certificate.  
Prerequisites: None

### **CET 110 Advanced Surveying and Construction Layout**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course in land surveying and construction layout. Topics include: traverse calculations, coordinate geometry, and field construction layout with methods of providing line and grade for varied projects. Students complete outdoor field exercises and computer lab exercises.  
Prerequisites: CET 105

### **CET 115 Architectural Drafting and Computer Aided Design**

**4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on applying architectural drafting techniques and computer aided design concepts. Topics include: building codes, building materials, and fundamentals of CAD software. Students prepare residential working drawings.  
Prerequisites: None

### **CET 117 Construction Risk Management and Insurance**

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on insurance for the construction management process. Topics include: financial risk planning, risk management, insurance markets, property insurance, contractual risks and transfer, forms of liability insurance (commercial, employers, environmental, management, and professional), and workers' compensation.  
Prerequisites: None

### **CET 120 Advanced Computer Aided Design: Revit Architecture**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on CAD techniques that apply building information modeling using Revit Architecture. Topics include: layouts, dimensioning, blocks, and hatching.  
Prerequisites: CET 115

### **CET 125 Statics and Strength of Materials (CET)**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying physical principles to solve problems of equilibrium and behavior in civil engineering structures. Topics include: force resultants, equilibrium, truss analysis, direct stress, bending stress, beam behavior, and combined stress.  
Prerequisites: MAT 124 or appropriate placement

### **CET 127 Environmental and Legal Issues in Construction**

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on environmental and legal issues affecting construction safety. Topics include: stormwater pollution prevention plans, asbestos abatement, disturbance and abatement of lead-containing materials, silica exposure, EPA regulations, multi-employer worksite rules, intentional torts, safety violations, and union contracts.  
Prerequisites: None

### **CET 130 Building Codes and Materials**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on building code requirements and their applications to designing and constructing building projects. Topics include: Ohio building, mechanical, electrical, and plumbing codes; and building materials used in construction such as steel, wood, masonry, and concrete.  
Prerequisites: CET 115

### **CET 133 Home Inspection - American Society of Home Inspectors**

**5 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course that meets requirements for the American Society of Home Inspectors (ASHI) 120-hour home inspection course. Topics include: standards and reports, exterior cladding, exterior structures, roofing and foundations, interiors, electrical systems, heating, air conditioning, and plumbing. Students participate in field inspection lab activity and take a certification exam. A comprehensive final score of 70% is required to pass the course.  
Prerequisites: None

### **CET 135 Construction Estimating**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on quantifying various components of a commercial project using a complete set of working drawings and specifications. Topics include: blueprint reading, specification analysis, construction methods and materials, and proper estimating communication practices.  
Prerequisites: MAT 124 or appropriate placement

### **CET 137 Construction Safety Plan Management**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developing construction safety plans. Topics include: essential elements of a safety program; best practices, legal, and regulatory requirements related to safety planning; substance abuse programs; accident investigations; contractor management; and crisis management and planning.  
Prerequisites: None

**CET 147 Safety Training Workshops****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

Students participate in construction training workshops that provide fundamental instruction in safety methods and practices. Workshops must be approved by the program chair.

Prerequisites: Program Chair consent

**CET 150 Building Technology Studies: Advanced Standing****1-30 Credits. 0 Lecture Hour. 0 Lab Hour.**

Students complete courses or programs that develop expertise in skills related to the building trades.

Prerequisites: Program Chair consent

Instructor Consent Required

**CET 191 Part-Time Cooperative Education 1: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CET 192 Part-Time Cooperative Education 2: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 191

**CET 193 Part-Time Cooperative Education 3: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 192

**CET 194 Part-Time Cooperative Education 4: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 193

**CET 195 Part-Time Cooperative Education 5: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 194

**CET 196 Part-Time Cooperative Education 6: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 195

**CET 200 Structural Design****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on methods for evaluation and design of structural steel and reinforced concrete members, using AISC and ACI requirements. Topics include: design methodologies focused on bending moment behavior, tension and compression behavior, shear behavior, and connections; and common field testing techniques for concrete.

Prerequisites: CET 125

**CET 205 Architectural Design and 3D Modeling: Revit Architecture****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on architectural details and information required in a complete set of professional working drawings for an office or commercial building. Topics include: using CAD design software and Revit Architecture.

Prerequisites: CET 120

Corequisites: CET 211, CET 212

**CET 210 Lighting and Electrical Systems Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts for lighting and electrical design in commercial buildings. Topics include: creating sets of drawings in AutoCAD and Revit Architecture, and using the National Electric Code.

Prerequisites: CET 120

**CET 211 Advanced Revit: Mechanical****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on understanding concepts of plumbing and mechanical systems and preparing details of plumbing and mechanical systems layouts using Revit software.

Prerequisites: CET 120

Corequisites: CET 205, CET 212

**CET 212 Advanced Revit: Electrical****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on understanding concepts of electrical power and lighting systems and preparing details of electrical power and lighting systems layouts using Revit software.

Prerequisites: CET 120

Corequisites: CET 205, CET 211

**CET 215 Mechanical and HVAC Systems Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts of mechanical and HVAC design for commercial buildings. Topics include: creating sets of design drawings using AutoCAD and Revit, and Ohio mechanical and plumbing codes.

Prerequisites: CET 120

**CET 220 3D Modeling: Revit MEP and Revit Structure****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applying design concepts and preparing details of mechanical and electrical systems, plumbing, and structure in buildings using Revit MEP and Revit Structure software.

Prerequisites: CET 205

**CET 225 Building Construction****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how buildings and structures are assembled. Topics include: methods and materials for residential, commercial, industrial, and highway construction including wood frame, masonry, pre-engineered metal, tilt-up, and high-rise construction; building codes; zoning regulations; and footing design.

Prerequisites: None

Ohio Transfer Assurance Guide Approved

Ohio Career-Technical Assurance Guide Approved

**CET 230 Construction Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that examines current concerns in construction management. Topics include: project delivery systems, contract types, and using Web-based software for daily project management.

Prerequisites: CET 135

**CET 235 Construction Scheduling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on preparing precedence diagram CPM schedules and calculating the critical path, including start-to-start and finish-to-finish relationship types with lag. Topics include: using scheduling software, fast-tracking, reverse phase scheduling, and revising and updating schedules.

Prerequisites: CET 135

**CET 240 Cost Engineering****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how budgets evolve as projects move from pre-design through construction. Topics include: types of estimates employed at each phase, formulating unit prices, time value of money and true profit, cash flow, cost indices, and using estimating software.

Prerequisites: CET 135

**CET 245 Building Information Models for Construction****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on using building modeling software for construction management tasks such as estimating, trade coordination, and scheduling. Topics include: parameter creation, quantity takeoff, estimation, interference checking, and timeline visualization.

Prerequisites: CET 120

**CET 250 Route Location and Design****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on highway design criteria and standards. Topics include: design and layout of horizontal curves, verticals, and spirals; superelevation use; typical sections; and boundary, area, and right-of-way determination. Students complete outdoor field exercises and computer lab exercises.

Prerequisites: CET 110

**CET 251 Elements of Land Surveying 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts and techniques of land boundary surveying. Topics include: records research, state minimum standards, monumentation of corners, and simple plats and legal descriptions. Students must complete field exercises.

Prerequisites: CET 110

**CET 252 Elements of Land Surveying 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of CET 251. Topics include: sequential and simultaneous boundaries, riparian and littoral boundaries, public land surveys, easements, and legal principles of property relating to surveyors.

Prerequisites: CET 251

**CET 255 Land Information Modeling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques of land modeling. Topics include: mapping, using geographic information system software, advanced digital terrain modeling, 3D laser scanning, LIDAR, high-definition surveying, and 3D site modeling for visualization and machine-control projects.

Prerequisites: CET 110

**CET 260 Control Surveying****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course in concepts and techniques of control surveying. Topics include: basic geodesy, state plane coordinate concepts and calculations, establishing horizontal and vertical control, GPS positioning, and network adjustment. Students complete outdoor field exercises and computer lab exercises.

Prerequisites: CET 110

**CET 265 Subdivision Design and Drainage Control****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying land surveying and civil engineering design principles to land development projects. Topics include: subdivision regulations, zoning regulations, lot layout, street layout, utility design, drainage, and site grading. Students create a set of subdivision drawings to meet local standards.

Prerequisites: CET 255

**CET 266 Surveying History in Ohio, Kentucky, and Indiana****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the history of surveying in Ohio, Indiana, and Kentucky, including the original surveys in these states.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 267 Surveying Laws and Ethics****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on surveying law and professional ethics in Ohio, Indiana, and Kentucky, including legislation and regulations affecting land surveyors in these states.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 270 OSHA 30 for Construction****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in the construction industry. Topics include: workers' rights, employer responsibilities, how to file a complaint, and other information required to receive OSHA 30 certification by the U.S. Department of Labor's Occupational Safety and Health Administration.

Prerequisites: None

**CET 277 Survey Calculations and Statistics****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on survey calculations employing statistical concepts. Topics include: descriptive and inferential statistics, advanced coordinate geometry methods, least squares adjustment, and error theory.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 280 Civil Engineering Technology Architectural Capstone****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

Students design a one-story commercial building with complete, integrated building systems for architectural, mechanical, and electrical systems; apply multiple appropriate codes; and create sets of drawings using AutoCAD and Revit software as appropriate.

Prerequisites: CET 205 and CET 210 and CET 215

**CET 285 Civil Engineering Technology Construction Management Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students respond to a request for construction management services and complete a project that demonstrates integrated competencies in estimating, scheduling, communicating, and teamwork.

Prerequisites: CET 230 and CET 235

**CET 287 Geospatial Surveying****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on surveying using geospatial methods. Topics include: satellite positioning, geographic information systems, remote sensing, and laser scanning.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 290 Civil Engineering Technology Surveying Capstone****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

Students complete a project that demonstrates integrated competencies in surveying and mapping, including data collection, field work, computer laboratory work, and use of conventional and GPS equipment.

Prerequisites: CET 251

**CET 291 Full-Time Cooperative Education 1: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CET 292 Full-Time Cooperative Education 2: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 291

**CET 293 Full-Time Cooperative Education 3: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 292

**CET 294 Internship 1: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 100

**CET 295 Internship 2: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 294

## Construction Management Major (CETCO)

### Civil Engineering Technology—Construction Management Major (CETCO)

The Civil Engineering Technology - Construction Management Major prepares graduates to coordinate and supervise the construction process from design through construction while meeting schedule, cost, and quality goals.

Graduates earn an Associate of Applied Science degree, and gain thorough understanding of project documentation, building methods and materials, estimating, scheduling, and team dynamics. Graduates also are well-versed in computer-integrated construction, and the practices and methods used throughout residential, commercial, and industrial construction.

The Civil Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, 415 North Charles Street, Baltimore, MD 21201. Phone (410) 347-7700. Website: <http://www.abet.org>

The Civil Engineering Technology - Construction Management program is also accredited by the American Council for Construction Education (ACCE), 1717 North Loop 1604 East, Suite 320, San Antonio, TX 78232-1570. Phone (210) 495-6161.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Civil Engineering Technology—Construction Management Major (CETCO)

Semester 1		Lec	Lat	Credits
CET 100	Introduction to Civil Engineering Technology ( <b>B</b> )	2	2	3
CET 105	Introduction to Surveying ( <b>B</b> )	2	3	3

CET 115	Architectural Drafting and Computer Aided Design ( <b>B</b> )	2	4	4
MAT 125	Algebra and Trigonometry ( <b>G</b> )	3	2	4
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
<b>Semester 2</b>				
CET 110	Advanced Surveying and Construction Layout ( <b>T</b> )	2	3	3
CET 120	Advanced Computer Aided Design: Revit Architecture ( <b>T</b> )	3	3	4
CET 135	Construction Estimating ( <b>T</b> )	2	2	3
CET 225	Building Construction ( <b>T</b> )	2	2	3
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
<b>Semester 3</b>				
COMM 110	Public Speaking ( <b>B</b> )	3	0	3
MAT 126	Functions and Calculus ( <b>B</b> )	3	2	4
CET 291	Full-Time Cooperative Education 1: Civil Engineering Technology ( <b>T</b> )	1	40	2
<b>Semester 4</b>				
CET 125	Statics and Strength of Materials (CET) ( <b>T</b> )	3	3	4
CET 230	Construction Management ( <b>T</b> )	2	2	3
CET 235	Construction Scheduling ( <b>T</b> )	2	3	3
CET 240	Cost Engineering ( <b>T</b> )	2	2	3
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
<b>Semester 5</b>				
PHY 151	Physics 1: Algebra and Trigonometry-Based ( <b>G</b> )	3	3	4
CET 292	Full-Time Cooperative Education 2: Civil Engineering Technology ( <b>T</b> )	1	40	2
<b>Semester 6</b>				
CET 200	Structural Design ( <b>T</b> )	3	3	4
CET 245	Building Information Models for Construction ( <b>T</b> )	1	3	2
CET 285	Civil Engineering Technology Construction Management Capstone ( <b>T</b> )	2	3	3
ECO 110	Principles of Macroeconomics ( <b>G</b> )	3	0	3
XXX XXX	Business Elective ( <b>B</b> )	3	0	3
Total Credits:		57	125	77

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Business Elective

Any ACC, FIN, MGT, MKT	3
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Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Civil Engineering Technologies (CETAO, CETCO, CETSO)

### ACCE

- Demonstrate effective communication, both orally and in writing.
- Demonstrate the ability to estimate quantities and costs for the bidding process in a construction project.
- Demonstrate the ability to schedule a basic construction project.
- Demonstrate the ability to use current technology related to the construction process.
- Interpret construction documents (contracts, specifications, and drawings) used in managing a construction project.
- Apply basic principles of construction accounting.
- Use basic surveying techniques used in building layout.
- Discuss basic principles of ethics in the construction industry.
- Identify the fundamentals of contracts, codes, and regulations that govern a construction project.
- Recognize basic construction methods, materials, and equipment.
- Recognize basic safety hazards on a construction site and standard prevention measures.
- Recognize the basic principles of structural design.
- Recognize the basic principles of mechanical, electrical, and piping systems.

### ABET

- Ability to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities.



- Ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge.
- Ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments.
- Ability to function effectively as a member of a technical team.
- Ability to identify, analyze, and solve narrowly defined engineering technology problems.
- Ability to apply written, oral, and graphical communication in both technical and non-technical environments; and ability to identify and use appropriate technical literature.
- Understanding of the need for and ability to engage in self-directed continuing professional development.
- Understanding of and commitment to address professional and ethical responsibilities, including a respect for diversity.
- Commitment to quality, timeliness, and continuous improvement.

## Faculty

### Program Chair/Advisor

Carol Morman, PE, PS, MS  
carol.morman@cincinnatiastate.edu

### Co-op Coordinators

Jennifer Geiger, BS  
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### Evening Student Advisor

Elias Feghali, BS  
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### Advisors

Wendy Steinberg, MS  
wendy.steinberg@cincinnatiastate.edu

Carole Womeldorf, PhD  
carole.womeldorf@cincinnatiastate.edu

## Courses

### **CET 100 Introduction to Civil Engineering Technology** **3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on foundation concepts in civil engineering technology. Topics include: CET program and curriculum, career preparation, licensing, ethics, diversity, and OSHA. Students use Microsoft Word, Excel, and Powerpoint to complete assignments.  
Prerequisites: None

### **CET 105 Introduction to Surveying** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on foundation concepts of land surveying and site planning. Topics include: angle, distance, and elevation measurement; contours; and mapping and site planning fundamentals. Students complete outdoor field exercises and manual drafting lab exercises.  
Prerequisites: MAT 121 or appropriate placement  
Ohio Transfer Assurance Guide Approved

### **CET 107 Construction Health and Safety** **4 Credits. 4 Lecture Hours. 0 Lab Hour.**

An introduction to construction safety. Topics include: risk management, safety hazards, the Code of Federal Regulations, and OSHA Construction Industry Standards outlined in Federal Code 29 CFR Part 1926. Students who complete the course successfully earn the OSHA 30-hour certificate.  
Prerequisites: None

### **CET 110 Advanced Surveying and Construction Layout** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course in land surveying and construction layout. Topics include: traverse calculations, coordinate geometry, and field construction layout with methods of providing line and grade for varied projects. Students complete outdoor field exercises and computer lab exercises.  
Prerequisites: CET 105

### **CET 115 Architectural Drafting and Computer Aided Design** **4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on applying architectural drafting techniques and computer aided design concepts. Topics include: building codes, building materials, and fundamentals of CAD software. Students prepare residential working drawings.  
Prerequisites: None

### **CET 117 Construction Risk Management and Insurance** **4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on insurance for the construction management process. Topics include: financial risk planning, risk management, insurance markets, property insurance, contractual risks and transfer, forms of liability insurance (commercial, employers, environmental, management, and professional), and workers' compensation.  
Prerequisites: None

### **CET 120 Advanced Computer Aided Design: Revit Architecture** **4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on CAD techniques that apply building information modeling using Revit Architecture. Topics include: layouts, dimensioning, blocks, and hatching.  
Prerequisites: CET 115

### **CET 125 Statics and Strength of Materials (CET)** **4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying physical principles to solve problems of equilibrium and behavior in civil engineering structures. Topics include: force resultants, equilibrium, truss analysis, direct stress, bending stress, beam behavior, and combined stress.  
Prerequisites: MAT 124 or appropriate placement

### **CET 127 Environmental and Legal Issues in Construction** **4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on environmental and legal issues affecting construction safety. Topics include: stormwater pollution prevention plans, asbestos abatement, disturbance and abatement of lead-containing materials, silica exposure, EPA regulations, multi-employer worksite rules, intentional torts, safety violations, and union contracts.  
Prerequisites: None

### **CET 130 Building Codes and Materials** **3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on building code requirements and their applications to designing and constructing building projects. Topics include: Ohio building, mechanical, electrical, and plumbing codes; and building materials used in construction such as steel, wood, masonry, and concrete.  
Prerequisites: CET 115

**CET 133 Home Inspection - American Society of Home Inspectors**  
**5 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course that meets requirements for the American Society of Home Inspectors (ASHI) 120-hour home inspection course. Topics include: standards and reports, exterior cladding, exterior structures, roofing and foundations, interiors, electrical systems, heating, air conditioning, and plumbing. Students participate in field inspection lab activity and take a certification exam. A comprehensive final score of 70% is required to pass the course.

Prerequisites: None

**CET 135 Construction Estimating**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on quantifying various components of a commercial project using a complete set of working drawings and specifications. Topics include: blueprint reading, specification analysis, construction methods and materials, and proper estimating communication practices.

Prerequisites: MAT 124 or appropriate placement

**CET 137 Construction Safety Plan Management**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developing construction safety plans. Topics include: essential elements of a safety program; best practices, legal, and regulatory requirements related to safety planning; substance abuse programs; accident investigations; contractor management; and crisis management and planning.

Prerequisites: None

**CET 147 Safety Training Workshops**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

Students participate in construction training workshops that provide fundamental instruction in safety methods and practices. Workshops must be approved by the program chair.

Prerequisites: Program Chair consent

**CET 150 Building Technology Studies: Advanced Standing**  
**1-30 Credits. 0 Lecture Hour. 0 Lab Hour.**

Students complete courses or programs that develop expertise in skills related to the building trades.

Prerequisites: Program Chair consent

Instructor Consent Required

**CET 191 Part-Time Cooperative Education 1: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CET 192 Part-Time Cooperative Education 2: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 191

**CET 193 Part-Time Cooperative Education 3: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 192

**CET 194 Part-Time Cooperative Education 4: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 193

**CET 195 Part-Time Cooperative Education 5: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 194

**CET 196 Part-Time Cooperative Education 6: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 195

**CET 200 Structural Design****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on methods for evaluation and design of structural steel and reinforced concrete members, using AISC and ACI requirements. Topics include: design methodologies focused on bending moment behavior, tension and compression behavior, shear behavior, and connections; and common field testing techniques for concrete.

Prerequisites: CET 125

**CET 205 Architectural Design and 3D Modeling: Revit Architecture****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on architectural details and information required in a complete set of professional working drawings for an office or commercial building. Topics include: using CAD design software and Revit Architecture.

Prerequisites: CET 120

Corequisites: CET 211, CET 212

**CET 210 Lighting and Electrical Systems Design**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts for lighting and electrical design in commercial buildings. Topics include: creating sets of drawings in AutoCAD and Revit Architecture, and using the National Electric Code.

Prerequisites: CET 120

**CET 211 Advanced Revit: Mechanical****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on understanding concepts of plumbing and mechanical systems and preparing details of plumbing and mechanical systems layouts using Revit software.

Prerequisites: CET 120

Corequisites: CET 205, CET 212

**CET 212 Advanced Revit: Electrical****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on understanding concepts of electrical power and lighting systems and preparing details of electrical power and lighting systems layouts using Revit software.

Prerequisites: CET 120

Corequisites: CET 205, CET 211

**CET 215 Mechanical and HVAC Systems Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts of mechanical and HVAC design for commercial buildings. Topics include: creating sets of design drawings using AutoCAD and Revit, and Ohio mechanical and plumbing codes.

Prerequisites: CET 120

**CET 220 3D Modeling: Revit MEP and Revit Structure****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applying design concepts and preparing details of mechanical and electrical systems, plumbing, and structure in buildings using Revit MEP and Revit Structure software.

Prerequisites: CET 205

**CET 225 Building Construction****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how buildings and structures are assembled. Topics include: methods and materials for residential, commercial, industrial, and highway construction including wood frame, masonry, pre-engineered metal, tilt-up, and high-rise construction; building codes; zoning regulations; and footing design.

Prerequisites: None

Ohio Transfer Assurance Guide Approved

Ohio Career-Technical Assurance Guide Approved

**CET 230 Construction Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that examines current concerns in construction management.

Topics include: project delivery systems, contract types, and using Web-based software for daily project management.

Prerequisites: CET 135

**CET 235 Construction Scheduling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on preparing precedence diagram CPM schedules and calculating the critical path, including start-to-start and finish-to-finish relationship types with lag. Topics include: using scheduling software, fast-tracking, reverse phase scheduling, and revising and updating schedules.

Prerequisites: CET 135

**CET 240 Cost Engineering****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how budgets evolve as projects move from pre-design through construction. Topics include: types of estimates employed at each phase, formulating unit prices, time value of money and true profit, cash flow, cost indices, and using estimating software.

Prerequisites: CET 135

**CET 245 Building Information Models for Construction****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on using building modeling software for construction management tasks such as estimating, trade coordination, and scheduling. Topics include: parameter creation, quantity takeoff, estimation, interference checking, and timeline visualization.

Prerequisites: CET 120

**CET 250 Route Location and Design****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on highway design criteria and standards. Topics include: design and layout of horizontal curves, verticals, and spirals; superelevation use; typical sections; and boundary, area, and right-of-way determination. Students complete outdoor field exercises and computer lab exercises.

Prerequisites: CET 110

**CET 251 Elements of Land Surveying 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts and techniques of land boundary surveying. Topics include: records research, state minimum standards, monumentation of corners, and simple plats and legal descriptions. Students must complete field exercises.

Prerequisites: CET 110

**CET 252 Elements of Land Surveying 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of CET 251. Topics include: sequential and simultaneous boundaries, riparian and littoral boundaries, public land surveys, easements, and legal principles of property relating to surveyors.

Prerequisites: CET 251

**CET 255 Land Information Modeling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques of land modeling. Topics include: mapping, using geographic information system software, advanced digital terrain modeling, 3D laser scanning, LIDAR, high-definition surveying, and 3D site modeling for visualization and machine-control projects.

Prerequisites: CET 110

**CET 260 Control Surveying****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course in concepts and techniques of control surveying. Topics include: basic geodesy, state plane coordinate concepts and calculations, establishing horizontal and vertical control, GPS positioning, and network adjustment. Students complete outdoor field exercises and computer lab exercises.

Prerequisites: CET 110

**CET 265 Subdivision Design and Drainage Control****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying land surveying and civil engineering design principles to land development projects. Topics include: subdivision regulations, zoning regulations, lot layout, street layout, utility design, drainage, and site grading. Students create a set of subdivision drawings to meet local standards.

Prerequisites: CET 255

**CET 266 Surveying History in Ohio, Kentucky, and Indiana****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the history of surveying in Ohio, Indiana, and Kentucky, including the original surveys in these states.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 267 Surveying Laws and Ethics****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on surveying law and professional ethics in Ohio, Indiana, and Kentucky, including legislation and regulations affecting land surveyors in these states.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 270 OSHA 30 for Construction****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in the construction industry. Topics include: workers' rights, employer responsibilities, how to file a complaint, and other information required to receive OSHA 30 certification by the U.S. Department of Labor's Occupational Safety and Health Administration.

Prerequisites: None

**CET 277 Survey Calculations and Statistics****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on survey calculations employing statistical concepts. Topics include: descriptive and inferential statistics, advanced coordinate geometry methods, least squares adjustment, and error theory.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 280 Civil Engineering Technology Architectural Capstone****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

Students design a one-story commercial building with complete, integrated building systems for architectural, mechanical, and electrical systems; apply multiple appropriate codes; and create sets of drawings using AutoCAD and Revit software as appropriate.

Prerequisites: CET 205 and CET 210 and CET 215

**CET 285 Civil Engineering Technology Construction Management Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students respond to a request for construction management services and complete a project that demonstrates integrated competencies in estimating, scheduling, communicating, and teamwork.

Prerequisites: CET 230 and CET 235

**CET 287 Geospatial Surveying****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on surveying using geospatial methods. Topics include: satellite positioning, geographic information systems, remote sensing, and laser scanning.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 290 Civil Engineering Technology Surveying Capstone****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

Students complete a project that demonstrates integrated competencies in surveying and mapping, including data collection, field work, computer laboratory work, and use of conventional and GPS equipment.

Prerequisites: CET 251

**CET 291 Full-Time Cooperative Education 1: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CET 292 Full-Time Cooperative Education 2: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 291

**CET 293 Full-Time Cooperative Education 3: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 292

**CET 294 Internship 1: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 100

**CET 295 Internship 2: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 294

## Surveying Major, Advanced Surveying Certificate, Land Surveying Certificate (CETSO, ASC, LSC)

### Civil Engineering Technology—Surveying Major (CETSO)

A surveyor enjoys diverse responsibilities as part of his or her everyday routine. Many surveying technicians work outside collecting data, establishing control points, and determining boundary locations. Others work inside an engineering office helping with site design activities and developing plans while using the field data.

Graduates of the Civil Engineering Technology - Surveying Major earn an Associate of Applied Science degree. Coursework includes operating state-of-the-art surveying equipment and computer software, in conjunction with fundamentals of civil engineering and site design. Students also gain specialized knowledge of boundary resolution, subdivision design, geographic information systems (GIS), and global positioning systems (GPS).

Graduates of the Surveying Major may continue in Cincinnati State's Bachelor of Applied Science in Land Surveying (p. 191).

The Civil Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, 415

North Charles Street, Baltimore, MD 21201. Phone (410) 347-7700.  
Website: <http://www.abet.org>

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Advanced Surveying Certificate (ASC)

The Advanced Surveying Certificate at Cincinnati State, offered in cooperation with Northern Kentucky University, is for graduates of the Civil Engineering Technology—Surveying Option (CETS) or other related associate's degree programs, and serves as the third year of a bachelor's degree program at Northern Kentucky University or the University of Cincinnati.

The certificate program has been approved by the State Boards of Registration in Ohio, Indiana, and Kentucky.

Most courses in the certificate are offered through online education, including classes in geographic information systems (GIS), global positioning systems (GPS), and legal topics.

Students should check with their state licensing board for possible changes to specific requirements before taking any coursework.

Graduates of other associate's degree programs must complete all prerequisite material in the Cincinnati State CETS program prior to acceptance into the certificate program.

Prospective students must meet with the certificate advisor prior to admission to the program.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Land Surveying Certificate (LSC)

The Land Surveying Certificate is for students enrolled in or who have graduated from a bachelor's degree civil engineering program who wish to pursue Professional Surveying registration in Ohio, Kentucky, or Indiana.

The certificate program offers designated courses required by the Board of Registration for Professional Engineers and Surveyors in these states to qualify for the surveying fundamentals examination.

The certificate program courses are offered in the evening and may be completed in consecutive semesters.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Civil Engineering Technology— Surveying Major (CETSO)

		Lec	Lat	Credits
<b>Semester 1</b>				
CET 100	Introduction to Civil Engineering Technology ( <b>B</b> )	2	2	3
CET 105	Introduction to Surveying ( <b>B</b> )	2	3	3
CET 115	Architectural Drafting and Computer Aided Design ( <b>B</b> )	2	4	4
MAT 125	Algebra and Trigonometry ( <b>G</b> )	3	2	4
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
<b>Semester 2</b>				
CET 110	Advanced Surveying and Construction Layout ( <b>T</b> )	2	3	3
CET 120	Advanced Computer Aided Design: Revit Architecture ( <b>T</b> )	3	3	4
CET 125	Statics and Strength of Materials (CET) ( <b>T</b> )	3	3	4
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
MAT 126	Functions and Calculus ( <b>B</b> )	3	2	4
<b>Semester 3</b>				
CET 291	Full-Time Cooperative Education 1: Civil Engineering Technology ( <b>T</b> )	1	40	2
PHY 151	Physics 1: Algebra and Trigonometry-Based ( <b>G</b> )	3	3	4
<b>Semester 4</b>				
CET 251	Elements of Land Surveying 1 ( <b>T</b> )	3	2	4
CET 250	Route Location and Design ( <b>T</b> )	3	2	4
CET 255	Land Information Modeling ( <b>T</b> )	2	3	3
ECO 110	Principles of Macroeconomics ( <b>G</b> )	3	0	3
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
<b>Semester 5</b>				
CET 252	Elements of Land Surveying 2 ( <b>T</b> )	3	3	4
CET 260	Control Surveying ( <b>T</b> )	3	3	4
CET 292	Full-Time Cooperative Education 2: Civil Engineering Technology ( <b>T</b> )	1	40	2
<b>Semester 6</b>				
CET 265	Subdivision Design and Drainage Control ( <b>T</b> )	3	3	4
CET 290	Civil Engineering Technology Surveying Capstone ( <b>T</b> )	1	6	3
COMM 110	Public Speaking ( <b>B</b> )	3	0	3
Total Credits:		56	127	76

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1		
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FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Advanced Surveying Certificate (ASC)**

**Program Prerequisites:** Graduate from the Cincinnati State Civil Engineering Technologies Surveying Option, or complete comparable coursework. Meet with the certificate advisor prior to admission to the program.

Most required courses are offered via online education.

Semester 1		Lec	Lat	Credits
CET 267	Surveying Laws and Ethics	4	0	4
CET 277	Survey Calculations and Statistics	4	0	4
CET 266	Surveying History in Ohio, Kentucky, and Indiana ( T)	4	0	4

Semester 2		Lec	Lat	Credits
XXX XXX	Science Elective	3	0	3

Semester 3		Lec	Lat	Credits
CET 287	Geospatial Surveying	4	0	4
Total Credits:		19	0	19

**Electives**

**Science Elective**

BIO 131	Biology 1	5
CHE 110	Fundamentals of Chemistry	4
CHE 121 & CHE 131	General Chemistry 1 and General Chemistry 1 Lab	5
EVS 120	Environmental Geology	4
LH 130	Woody Plant Materials	3
PHY 152	Physics 2: Algebra and Trigonometry-Based	4

PSC 105	Astronomy	4
PSC 110	Earth Science	4

Note: Students seeking Surveyor Registration in Indiana must complete (or have previously completed) these courses: MAT 251 (Calculus 1), and six semester hours from the following areas: Freshman Chemistry, Astronomy, Geology, or Dendrology (Woody Plants).

**Land Surveying Certificate (LSC)**

**Program Prerequisite:** Enrolled in or a graduate of a four-year Civil Engineering degree program.

This program meets the Ohio State Board of Registration for Professional Engineering and Surveyors requirements for education needed to become eligible for the registration exam for professional surveyors.

Semester 1		Lec	Lat	Credits
CET 251	Elements of Land Surveying 1	3	2	4
CET 267	Surveying Laws and Ethics	4	0	4
CET 266	Surveying History in Ohio, Kentucky, and Indiana ( T)	4	0	4

Semester 2		Lec	Lat	Credits
CET 252	Elements of Land Surveying 2	3	3	4
CET 260	Control Surveying	3	3	4

Semester 3		Lec	Lat	Credits
XXX XXX	Technical Elective 1	3	0	3
XXX XXX	Technical Elective 2	3	0	3

Semester 4		Lec	Lat	Credits
CET 250	Route Location and Design	3	2	4
CET 2XX	Surveying Elective	4	0	4

Total Credits:	30	10	34
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**Electives**

**Technical Electives**

Students seeking registration in Indiana are required to take:  
 MAT 251 Calculus 1 & PHY 152 and Physics 2: Algebra and Trigonometry-Based

Students seeking registration in Ohio or Kentucky choose technical electives based the following criteria:

Select Civil Engineering Technology (CET) courses or other courses approved by Program Chair

Surveying Elective		Lec	Lat	Credits
CET 277	Survey Calculations and Statistics	4		
CET 287	Geospatial Surveying	4		

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Civil Engineering Technologies (CETAO, CETCO, CETSO)

### ACCE

- Demonstrate effective communication, both orally and in writing.
- Demonstrate the ability to estimate quantities and costs for the bidding process in a construction project.
- Demonstrate the ability to schedule a basic construction project.
- Demonstrate the ability to use current technology related to the construction process.
- Interpret construction documents (contracts, specifications, and drawings) used in managing a construction project.
- Apply basic principles of construction accounting.
- Use basic surveying techniques used in building layout.
- Discuss basic principles of ethics in the construction industry.
- Identify the fundamentals of contracts, codes, and regulations that govern a construction project.
- Recognize basic construction methods, materials, and equipment.
- Recognize basic safety hazards on a construction site and standard prevention measures.
- Recognize the basic principles of structural design.
- Recognize the basic principles of mechanical, electrical, and piping systems.

### ABET

- Ability to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities.
- Ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge.
- Ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments.
- Ability to function effectively as a member of a technical team.
- Ability to identify, analyze, and solve narrowly defined engineering technology problems.
- Ability to apply written, oral, and graphical communication in both technical and non-technical environments; and ability to identify and use appropriate technical literature.
- Understanding of the need for and ability to engage in self-directed continuing professional development.
- Understanding of and commitment to address professional and ethical responsibilities, including a respect for diversity.
- Commitment to quality, timeliness, and continuous improvement.

## Faculty

### Program Chair/Advisor

Carol Morman, PE, PS, BS  
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## Co-op Coordinators

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## Evening Student Advisor

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## Courses

### **CET 100 Introduction to Civil Engineering Technology 3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on foundation concepts in civil engineering technology. Topics include: CET program and curriculum, career preparation, licensing, ethics, diversity, and OSHA. Students use Microsoft Word, Excel, and Powerpoint to complete assignments.  
Prerequisites: None

### **CET 105 Introduction to Surveying 3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on foundation concepts of land surveying and site planning. Topics include: angle, distance, and elevation measurement; contours; and mapping and site planning fundamentals. Students complete outdoor field exercises and manual drafting lab exercises.  
Prerequisites: MAT 121 or appropriate placement  
Ohio Transfer Assurance Guide Approved

### **CET 107 Construction Health and Safety 4 Credits. 4 Lecture Hours. 0 Lab Hour.**

An introduction to construction safety. Topics include: risk management, safety hazards, the Code of Federal Regulations, and OSHA Construction Industry Standards outlined in Federal Code 29 CFR Part 1926. Students who complete the course successfully earn the OSHA 30-hour certificate.  
Prerequisites: None

### **CET 110 Advanced Surveying and Construction Layout 3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course in land surveying and construction layout. Topics include: traverse calculations, coordinate geometry, and field construction layout with methods of providing line and grade for varied projects. Students complete outdoor field exercises and computer lab exercises.  
Prerequisites: CET 105

**CET 115 Architectural Drafting and Computer Aided Design****4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on applying architectural drafting techniques and computer aided design concepts. Topics include: building codes, building materials, and fundamentals of CAD software. Students prepare residential working drawings.

Prerequisites: None

**CET 117 Construction Risk Management and Insurance****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on insurance for the construction management process. Topics include: financial risk planning, risk management, insurance markets, property insurance, contractual risks and transfer, forms of liability insurance (commercial, employers, environmental, management, and professional), and workers' compensation.

Prerequisites: None

**CET 120 Advanced Computer Aided Design: Revit Architecture****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on CAD techniques that apply building information modeling using Revit Architecture. Topics include: layouts, dimensioning, blocks, and hatching.

Prerequisites: CET 115

**CET 125 Statics and Strength of Materials (CET)****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying physical principles to solve problems of equilibrium and behavior in civil engineering structures. Topics include: force resultants, equilibrium, truss analysis, direct stress, bending stress, beam behavior, and combined stress.

Prerequisites: MAT 124 or appropriate placement

**CET 127 Environmental and Legal Issues in Construction****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on environmental and legal issues affecting construction safety. Topics include: stormwater pollution prevention plans, asbestos abatement, disturbance and abatement of lead-containing materials, silica exposure, EPA regulations, multi-employer worksite rules, intentional torts, safety violations, and union contracts.

Prerequisites: None

**CET 130 Building Codes and Materials****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on building code requirements and their applications to designing and constructing building projects. Topics include: Ohio building, mechanical, electrical, and plumbing codes; and building materials used in construction such as steel, wood, masonry, and concrete.

Prerequisites: CET 115

**CET 133 Home Inspection - American Society of Home Inspectors****5 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course that meets requirements for the American Society of Home Inspectors (ASHI) 120-hour home inspection course. Topics include: standards and reports, exterior cladding, exterior structures, roofing and foundations, interiors, electrical systems, heating, air conditioning, and plumbing. Students participate in field inspection lab activity and take a certification exam. A comprehensive final score of 70% is required to pass the course.

Prerequisites: None

**CET 135 Construction Estimating****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on quantifying various components of a commercial project using a complete set of working drawings and specifications. Topics include: blueprint reading, specification analysis, construction methods and materials, and proper estimating communication practices.

Prerequisites: MAT 124 or appropriate placement

**CET 137 Construction Safety Plan Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developing construction safety plans. Topics include: essential elements of a safety program; best practices, legal, and regulatory requirements related to safety planning; substance abuse programs; accident investigations; contractor management; and crisis management and planning.

Prerequisites: None

**CET 147 Safety Training Workshops****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

Students participate in construction training workshops that provide fundamental instruction in safety methods and practices. Workshops must be approved by the program chair.

Prerequisites: Program Chair consent

**CET 150 Building Technology Studies: Advanced Standing****1-30 Credits. 0 Lecture Hour. 0 Lab Hour.**

Students complete courses or programs that develop expertise in skills related to the building trades.

Prerequisites: Program Chair consent

Instructor Consent Required

**CET 191 Part-Time Cooperative Education 1: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CET 192 Part-Time Cooperative Education 2: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 191

**CET 193 Part-Time Cooperative Education 3: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 192



**CET 194 Part-Time Cooperative Education 4: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 193

**CET 195 Part-Time Cooperative Education 5: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 194

**CET 196 Part-Time Cooperative Education 6: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 195

**CET 200 Structural Design****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on methods for evaluation and design of structural steel and reinforced concrete members, using AISC and ACI requirements. Topics include: design methodologies focused on bending moment behavior, tension and compression behavior, shear behavior, and connections; and common field testing techniques for concrete.

Prerequisites: CET 125

**CET 205 Architectural Design and 3D Modeling: Revit Architecture****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on architectural details and information required in a complete set of professional working drawings for an office or commercial building. Topics include: using CAD design software and Revit Architecture.

Prerequisites: CET 120

Corequisites: CET 211, CET 212

**CET 210 Lighting and Electrical Systems Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts for lighting and electrical design in commercial buildings. Topics include: creating sets of drawings in AutoCAD and Revit Architecture, and using the National Electric Code.

Prerequisites: CET 120

**CET 211 Advanced Revit: Mechanical****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on understanding concepts of plumbing and mechanical systems and preparing details of plumbing and mechanical systems layouts using Revit software.

Prerequisites: CET 120

Corequisites: CET 205, CET 212

**CET 212 Advanced Revit: Electrical****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on understanding concepts of electrical power and lighting systems and preparing details of electrical power and lighting systems layouts using Revit software.

Prerequisites: CET 120

Corequisites: CET 205, CET 211

**CET 215 Mechanical and HVAC Systems Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts of mechanical and HVAC design for commercial buildings. Topics include: creating sets of design drawings using AutoCAD and Revit, and Ohio mechanical and plumbing codes.

Prerequisites: CET 120

**CET 220 3D Modeling: Revit MEP and Revit Structure****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applying design concepts and preparing details of mechanical and electrical systems, plumbing, and structure in buildings using Revit MEP and Revit Structure software.

Prerequisites: CET 205

**CET 225 Building Construction****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how buildings and structures are assembled. Topics include: methods and materials for residential, commercial, industrial, and highway construction including wood frame, masonry, pre-engineered metal, tilt-up, and high-rise construction; building codes; zoning regulations; and footing design.

Prerequisites: None

Ohio Transfer Assurance Guide Approved

Ohio Career-Technical Assurance Guide Approved

**CET 230 Construction Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that examines current concerns in construction management. Topics include: project delivery systems, contract types, and using Web-based software for daily project management.

Prerequisites: CET 135

**CET 235 Construction Scheduling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on preparing precedence diagram CPM schedules and calculating the critical path, including start-to-start and finish-to-finish relationship types with lag. Topics include: using scheduling software, fast-tracking, reverse phase scheduling, and revising and updating schedules.

Prerequisites: CET 135

**CET 240 Cost Engineering****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how budgets evolve as projects move from pre-design through construction. Topics include: types of estimates employed at each phase, formulating unit prices, time value of money and true profit, cash flow, cost indices, and using estimating software.

Prerequisites: CET 135

**CET 245 Building Information Models for Construction****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on using building modeling software for construction management tasks such as estimating, trade coordination, and scheduling. Topics include: parameter creation, quantity takeoff, estimation, interference checking, and timeline visualization.

Prerequisites: CET 120

**CET 250 Route Location and Design****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on highway design criteria and standards. Topics include: design and layout of horizontal curves, verticals, and spirals; superelevation use; typical sections; and boundary, area, and right-of-way determination. Students complete outdoor field exercises and computer lab exercises.

Prerequisites: CET 110

**CET 251 Elements of Land Surveying 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts and techniques of land boundary surveying. Topics include: records research, state minimum standards, monumentation of corners, and simple plats and legal descriptions. Students must complete field exercises.

Prerequisites: CET 110

**CET 252 Elements of Land Surveying 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of CET 251. Topics include: sequential and simultaneous boundaries, riparian and littoral boundaries, public land surveys, easements, and legal principles of property relating to surveyors.

Prerequisites: CET 251

**CET 255 Land Information Modeling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques of land modeling. Topics include: mapping, using geographic information system software, advanced digital terrain modeling, 3D laser scanning, LIDAR, high-definition surveying, and 3D site modeling for visualization and machine-control projects.

Prerequisites: CET 110

**CET 260 Control Surveying****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course in concepts and techniques of control surveying. Topics include: basic geodesy, state plane coordinate concepts and calculations, establishing horizontal and vertical control, GPS positioning, and network adjustment. Students complete outdoor field exercises and computer lab exercises.

Prerequisites: CET 110

**CET 265 Subdivision Design and Drainage Control****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying land surveying and civil engineering design principles to land development projects. Topics include: subdivision regulations, zoning regulations, lot layout, street layout, utility design, drainage, and site grading. Students create a set of subdivision drawings to meet local standards.

Prerequisites: CET 255

**CET 266 Surveying History in Ohio, Kentucky, and Indiana****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the history of surveying in Ohio, Indiana, and Kentucky, including the original surveys in these states.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 267 Surveying Laws and Ethics****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on surveying law and professional ethics in Ohio, Indiana, and Kentucky, including legislation and regulations affecting land surveyors in these states.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 270 OSHA 30 for Construction****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in the construction industry. Topics include: workers' rights, employer responsibilities, how to file a complaint, and other information required to receive OSHA 30 certification by the U.S. Department of Labor's Occupational Safety and Health Administration.

Prerequisites: None

**CET 277 Survey Calculations and Statistics****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on survey calculations employing statistical concepts. Topics include: descriptive and inferential statistics, advanced coordinate geometry methods, least squares adjustment, and error theory.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 280 Civil Engineering Technology Architectural Capstone****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

Students design a one-story commercial building with complete, integrated building systems for architectural, mechanical, and electrical systems; apply multiple appropriate codes; and create sets of drawings using AutoCAD and Revit software as appropriate.

Prerequisites: CET 205 and CET 210 and CET 215

**CET 285 Civil Engineering Technology Construction Management Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students respond to a request for construction management services and complete a project that demonstrates integrated competencies in estimating, scheduling, communicating, and teamwork.

Prerequisites: CET 230 and CET 235

**CET 287 Geospatial Surveying****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on surveying using geospatial methods. Topics include: satellite positioning, geographic information systems, remote sensing, and laser scanning.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 290 Civil Engineering Technology Surveying Capstone****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

Students complete a project that demonstrates integrated competencies in surveying and mapping, including data collection, field work, computer laboratory work, and use of conventional and GPS equipment.

Prerequisites: CET 251

**CET 291 Full-Time Cooperative Education 1: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### **CET 292 Full-Time Cooperative Education 2: Civil Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 291

### **CET 293 Full-Time Cooperative Education 3: Civil Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 292

### **CET 294 Internship 1: Civil Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 100

### **CET 295 Internship 2: Civil Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 294

## **Computer Programming and Database Management**

The work done by graduates of the Computer Programming and Database Management programs plays a major role in our daily lives. Computer programming and database design and access provide users of computers with information resources; access to the internet for individual, public, and commercial uses; and control of systems used in varied businesses and industrial applications.

All of the Computer Programming and Database Management associate's degree programs prepare graduates to successfully enter the workforce and advance professionally in technical and management careers, or to continue their education in a bachelor's degree program.

The Computer Programming and Database Management department offers three majors, each leading to an associate's degree. The department also offers a certificate program.

- The (p. 147)Computer Information Systems Major (CINS) (p. 147) focuses on the design, development, implementation, and maintenance of software used in a variety of industries. Students gain knowledge of computer operating systems and software development using several programming languages. Students also gain knowledge of core practices in business and/or health care, depending on their focus.
- The **Computer Software Development Major (CSD)** is an online program that prepares students to design, code, and implement

various types of web and database applications using state-of-the-art development tools. All courses in this program can be completed online.

- The **Software Engineering Technology Major (SET)** provides extensive training in computer programming. Students also gain knowledge of core math and science concepts and skills, and select a technical concentration to enhance their technical skills.
- The Computer Software Development Certificate (CSDC) (p. 154) is for experienced programmers looking to update or retool their skills, or for individuals preparing to enter the Information Technology field who already have a bachelor's degree in a different discipline. The certificate courses focus on software development skills needed in industry today, and all courses are available through online learning.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

## **Computer Information Systems Major (CINS)**

### **Computer Programming and Database Management - Computer Information Systems Major (CINS)**

The Computer Programming and Database Management - Computer Information Systems Major (CINS) focuses on the design, development, implementation, and maintenance of software used in a variety of industries.

Students gain knowledge of computer operating systems and software development using several programming languages. Students also gain knowledge of core practices in business and/or health care, depending on their focus.

Graduates earn an Associate of Applied Science degree and are prepared to enter the workforce as skilled computer programmers and systems integrators. Graduates may continue their education in a bachelor's degree program in computer science, information systems, business informatics, or business administration.

Although some required courses are available through evening and/or online classes, most of the required courses for the Computer Information Systems Major are scheduled on Monday through Friday between 8 a.m. and 5 p.m.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Computer Programming and Database Management - Computer Information Systems Major (CINS)

Semester 1		Lec	Lat	Credits
FYE 1XX	First Year Experience Elective (B)	1	0	1
ENG 101	English Composition 1 (G)	3	0	3
XXX XXX	Mathematics Elective (G)	3	0	3
IT 100	Computer Programming Foundations (T)	2	3	3
XXX XXX	Arts/ Humanities Elective (G)	3	0	3
Semester 2				
IT 101	Programming 1 (T)	2	3	3
IT 111	Database Design and SQL 1 (B)	2	3	3
XXX XXX	Computer Information Systems Elective 1 (B)	3	0	3
CPDM 210	System Analysis and Design (T)	2	3	3
Semester 3				
IT 102	Programming 2 (T)	2	3	3
CPDM 120	Fundamentals of Object-Oriented Programming using Python (T)	2	3	3
XXX XXX	Computer Information Systems Elective 2 (B)	3	0	3
XXX XXX	Computer Information Systems Elective 3 (B)	3	0	3
ECO 1XX	Economics Elective (G)	3	0	3
Semester 4				
CPDM XXX	Experiential Learning Elective 1 (T)	1	40	2
XXX XXX	Technical Concentration Elective 1 (T)	2	3	3

XXX XXX	Technical Track Elective 1 (T)	2	3	3
Semester 5				
XXX XXX	Computer Information Systems Elective 4 (B)	3	0	3
XXX XXX	Technical Concentration Elective 2 (T)	2	3	3
XXX XXX	Technical Track Elective 2 (T)	2	3	3
ENG 10X	English Composition Elective (G)	3	0	3
Semester 6				
CPDM XXX	Experiential Learning Elective 2 (T)	1	40	2
CPDM 290	Computer Programming and Database Management Capstone (T)	2	3	3
<b>Total Credits:</b>		52	113	65

### Electives

#### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

#### Mathematics Elective

MAT 124	Applied Algebra and Geometry	4
MAT 125	Algebra and Trigonometry	4
MAT 131	Statistics 1	3
MAT 151	College Algebra	4

#### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

#### Arts/Humanities Elective

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

#### Economics Elective

ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3

**Experiential Learning Electives (Choose courses from 1 experiential learning group)**

<b>Cooperative Education Experiential Learning</b>		
CPDM 190	Cooperative Education Preparation: Computer Programming and Database Management	1
CPDM 291	Full-Time Cooperative Education 1: Computer Programming and Database Management	2
CPDM 292	Full-Time Cooperative Education 2: Computer Programming and Database Management	2
<b>Project-Based Experiential Learning</b>		
CPDM 296	Project-Based Learning 1	2
CPDM 297	Project-Based Learning 2	2
<b>Computer Information Systems Electives (Choose 4 courses)</b>		
ACC 101	Financial Accounting	3
ACC 102	Managerial Accounting	3
FIN 150	Business Finance	3
MGT 101	Principles of Management	3
LAW 101	Business Law	3
HIT 100	Language and Culture of Healthcare	3
HIT 105	Information Technology Systems in Healthcare	3
HIT 210	Healthcare Reimbursement	3
MCH 104	Comprehensive Medical Terminology	3
<b>Technical Concentration Electives (Choose courses from 1 concentration)</b>		
<b>C Programmer Concentration</b>		
SET 151	C Programming 1 (T)	3
SET 252	C Programming 2 (T)	3
<b>Java Programmer Concentration</b>		
IT 161	Java Programming 1 (T)	3
IT 262	Java Programming 2 (T)	3
<b>Web Programmer Concentration</b>		
IT 117	Web Application Development 1 (T)	3
IT 218	Web Application Development 2 (T)	3
<b>Technical Track Electives (Choose courses from 1 track that was not the chosen technical concentration)</b>		
<b>C Programming Track 1</b>		
SET 151	C Programming 1 (T)	3
SET 252	C Programming 2 (T)	3
<b>Java Programming Track</b>		
IT 161	Java Programming 1 (T)	3
IT 262	Java Programming 2 (T)	3
<b>Web Programming Track</b>		
IT 117	Web Application Development 1 (T)	3
IT 218	Web Application Development 2 (T)	3
<b>IBMi Powersystem Track</b>		
CPDM 211	Business Application Development 1: RPGLE/DB2 (T)	4
CPDM 212	Business Application Development 2: RPGLE/DB2 (T)	4
<b>Mobile Application Track</b>		
CPDM 230	Mobile Application Development (T)	4
CPDM 240	Emerging Technologies: Web and Mobile Applications (T)	4
<b>Computer Networking Track</b>		
NETC 121	Network Communications 1 (T)	3

NETC 122	Network Communications 2 (T)	3
<b>Database Analytics Track</b>		
IT 112	Database Design and SQL 2 (T)	3
IT 212	Business Intelligence, Data Warehousing, and Reporting (T)	3
<b>Game Development Track</b>		
CPDM 250	Game Design and Society (T)	3
CPDM 255	Web Game Development (T)	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Computer Programming and Database Management (CINS, CSD, SET)

- Ability to collect, disseminate, analyze, and apply the requirements for a specific software development project.
- Ability to write, test, and maintain software applications utilizing current and relevant programming languages.
- Ability to design and implement a normalized relational database(s) to meet the needs of the software development project.
- Ability to effectively utilize databases and database management systems to organize, store, and retrieve data for use in application software.
- Ability to create application software that is intuitive for a wide range of users.
- Ability to effectively articulate ideas, recommendations, and solutions.
- Ability to lead and/or participate effectively in teams.
- Ability to utilize appropriate resources to broaden individual knowledge and to apply the industry's latest development tools, techniques, and standards.

## Faculty

### Program Chair/Advisor

Robert (Bob) Nields, MBA  
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### Co-op Coordinator

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noelle.grome@cincinnatiastate.edu

## Advisor

Bernell Prince, BS  
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## CPDM Courses

### **CPDM 120 Fundamentals of Object-Oriented Programming using Python**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of object-oriented programming using the Python programming language. Topics include: understanding Python; applying concepts of object-oriented design and programming by developing classes, methods, and properties using the principles of encapsulation, abstraction, inheritance, and polymorphism.

Prerequisites: IT 101 and IT 111 (minimum grade C for both)

### **CPDM 145 Data Reporting**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on using Crystal Reports as the tool to design and deliver reports that include tables, charts, and graphs as part of a Web-based application linked to an SQL server database.

Prerequisites: IT 101, IT 110, IT 111 or CIT 110 (minimum grade C for all)

### **CPDM 151 ASP.NET C# 1**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the ASP.NET framework using C#. Topics include: introduction to C# language and syntax, Web forms, server controls, master pages, AJAX, and data driven applications.

Prerequisites: IT 101, IT 110, IT 111, (minimum grade C for all)

### **CPDM 152 ASP.NET C# 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of CPDM 151. Topics include: advanced ASP.NET server controls, building custom classes, Web services, designing Web applications from abstract requirements, and effectively utilizing online reference materials.

Prerequisites: CPDM 151

### **CPDM 190 Cooperative Education Preparation: Computer Programming and Database Management**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that prepares students in the CPDM program for cooperative education. Topics include: using the PlacePro software system, resume development, interview skills, and cooperative education requirements, policies and procedures.

Prerequisites: None

### **CPDM 191 Part-Time Cooperative Education 1: Computer Programming and Database Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### **CPDM 192 Part-Time Cooperative Education 2: Computer Programming and Database Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 191

### **CPDM 193 Part-Time Cooperative Education 3: Computer Programming and Database Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 192

### **CPDM 194 Part-Time Cooperative Education 4: Computer Programming and Database Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 193

### **CPDM 195 Part-Time Cooperative Education 5: Computer Programming and Database Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 194

### **CPDM 196 Part-Time Cooperative Education 6: Computer Programming and Database Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 195

### **CPDM 210 System Analysis and Design**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts in system analysis and design, within the framework of the system development life cycle. Topics include: business case analysis, requirement gathering, requirement modeling, enterprise modeling, and development strategies.

Prerequisites: None

**CPDM 211 Business Application Development 1: RPGLE/DB2  
4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on the IBM operating system and utilities, including DB2, Control Language, Query, SDA, and SQL. Topics include: RPGLE utilization of forms/specifications, language operation codes and special functions used to generate reports, and transaction-level file maintenance.

Prerequisites: IT 102

**CPDM 212 Business Application Development 2: RPGLE/DB2  
4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of CPDM 211. Topics include: RPGLE procedural programming including arrays/list processing, interactive applications, and subfiles; interactive and embedded SQL; and ILE programming through service programs to address introductory cross-platform programming.

Prerequisites: CPDM 211

**CPDM 230 Mobile Application Development  
4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on designing and programming applications for current mobile devices. Topics include: GUI programming application structure; and considerations related to networks, databases, video, GPS sensors, and multi-touch technology.

Prerequisites: IT 102

**CPDM 240 Emerging Technologies: Web and Mobile Applications  
4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on emerging technologies in software and applications development for the web and mobile devices.

Prerequisites: CPDM 230

**CPDM 250 Game Design and Society  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course that examines the interdisciplinary natures of games and the fundamentals of game design. Topics include: history of games and play in society; game genres; game technical and experiential features; characteristics of game players; and creating game concepts, worlds, and characters.

Prerequisites: IT 117

**CPDM 255 Web Game Development  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on introductory programming for web games and similar interactive media using web programming languages such as JavaScript and HTML. Topics include: game programming frameworks, web programming syntax, web programming libraries for games, using a game loop, using sprites, interactive GUI programming, and creating the game environment.

Prerequisites: CPDM 250

**CPDM 290 Computer Programming and Database Management  
Capstone  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students work on a team project that demonstrates mastery of skills gained throughout their degree studies. Topics include: developing a project idea, conducting a feasibility study for the idea, gathering and analyzing requirements, and designing and implementing a solution.

Prerequisites: IT 218 or IT 262 or SET 253

**CPDM 291 Full-Time Cooperative Education 1: Computer  
Programming and Database Management**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CPDM 292 Full-Time Cooperative Education 2: Computer  
Programming and Database Management**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 291

**CPDM 293 Full-Time Cooperative Education 3: Computer  
Programming and Database Management**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 292

**CPDM 294 Internship 1: Computer Programming and Database  
Management**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 190

**CPDM 295 Internship 2: Computer Programming and Database  
Management**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 294

**CPDM 296 Project-Based Learning 1**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time project-based learning experience related to their degree. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IT 102

**CPDM 297 Project-Based Learning 2**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time project-based learning experience related to their degree. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 296 or CPDM 291

## IT Courses

### IT 100 Computer Programming Foundations

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts related to computer programming. Topics include: problem solving and developmental tools, design techniques such as flow charting and pseudo coding, and testing techniques used in programming.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

### IT 101 Programming 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to software development. Topics include: application design methods, application testing methods, the sequential structure of programming, the conditional structure of programming, variables, and modular programming concepts using procedures and functions.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

### IT 102 Programming 2

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 101. Topics include: the iterative programming structure, database programming, array processing, and string manipulation techniques.

Prerequisites: IT 101 and IT 111 (minimum grade C for both)

### IT 103 .NET Programming 3

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 102. Topics include: creating, debugging, and maintaining web-based database applications using the .NET framework.

Prerequisites: IT 102 and IT 111

### IT 105 Information Technology Concepts

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on information technology fundamentals. Topics include: the internet, software, hardware, input/output (I/O) and storage, operating systems, communications and networks, database management, security, system development, programming, enterprise computing, and numbering systems. The course is delivered through online instruction only.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

### IT 110 HTML with CSS and JavaScript

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on internet programming using HTML, CSS, and JavaScript. Topics include: HTML commands, cascading style sheets, JavaScript commands, web applications (apps), and dynamic web pages.

Prerequisites: None

### IT 111 Database Design and SQL 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of relational database design and implementation using Microsoft SQL Server. Topics include: SQL Enterprise Manager, fundamentals of database design and normalization, data import and export, Structured Query Language (SQL), indexes and keys, views, and stored procedures.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

### IT 112 Database Design and SQL 2

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 111. Topics include: advanced stored procedures using transact SQL, user defined functions, triggers, user defined data types, full text searching, replication, database maintenance plans, and designing data models from abstract requirements.

Prerequisites: IT 111 (minimum grade C)

### IT 115 Operating Systems Administration 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the Windows operating system used on PCs. Topics include Windows utilization and management, utilities, managing disks, disaster recovery, troubleshooting, user management, productivity tools, and performance issues. This course prepares students for a Microsoft Certification exam.

Prerequisites: ENG 085 or appropriate placement

### IT 116 Operating Systems Administration 2

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 115. Topics include: managing software problems; managing virtualization; and client configuration, development, deployment, and security. This course prepares students for a Microsoft Certification exam.

Prerequisites: IT 115 (minimum grade C)

### IT 117 Web Application Development 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of web-based application development. Topics include: current front-end and back-end technologies used to develop business-related applications, and understanding infrastructure to support application development.

Prerequisites: IT 102 and CPDM 120 (minimum grade C for both)

### IT 118 Web Application Development 2

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT-117. Topics include: using current front-end and back-end technologies to develop business-related applications.

Prerequisites: IT 117

### IT 140 PHP and MySQL

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course in PHP web programming with a MySQL database. Topics include: PHP language, syntax, variables, and forms; MySQL database design; connecting to a MySQL database using PHP; inserting, editing, and deleting MySQL data using PHP; and building dynamic web pages using PHP and MySQL.

Prerequisites: IT 101 and IT 110

### IT 150 Logistics and Distribution Technology

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on technologies and software used in supply chain management for freight, air, and maritime logistics operations. Topics include: barcodes, radio-frequency identification (RFID), Wi-Fi tags, logistics and inventory software, high frequency tracking, and passive/active tracking.

Prerequisites: None

### IT 161 Java Programming 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of the Java programming language. Topics include: data types, variables, basic command line input/output, decisions, loops, procedures, string manipulation, arrays, object-oriented development, event programming, and database programming.

Prerequisites: CPDM 120 and IT 102 (minimum grade C for both)

### IT 162 Java Programming 2

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 161. Topics include: Java Server Pages (JSP) and complex database applications using Java and JSP.

Prerequisites: IT 161



**IT 212 Business Intelligence, Data Warehousing, and Reporting**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts, technologies, and techniques used to effectively consolidate, arrange, and analyze large amounts of data. Topics include: decision support systems, data mining, and how to derive business value from large amounts of data.

Prerequisites: IT 112

**IT 215 Scripting**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on task automation and configuration management using Microsoft PowerShell programming language. Topics include: modifying existing PowerShell scripts, and creating new scripts to automate common tasks.

Prerequisites: NETB 155

**IT 218 Web Application Development 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 117. Topics include advanced front-end and back-end processing to develop advanced web-based applications.

Prerequisites: IT 117

**IT 220 Emerging Topics in Computer Software Development**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on current topics related to Computer Software Development such as data reporting, XML, and other new concerns.

Prerequisites: IT 101, IT 110, IT 111

**IT 262 Java Programming 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 161, with focus on completing complex projects using Java and associated technologies.

Prerequisites: IT 161

## SET Courses

**SET 110 HTML for Programmers**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on client-side web development from a programmer's perspective. Topics include: HTML, JavaScript, cascading style sheets (CSS), the document object model (DOM), dynamic HTML (DHTML), and regular expressions.

Prerequisites: None

**SET 151 C Programming 1**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of the C computer programming language. Topics include: decision statements, loops, functions, arrays, strings, structures, pointers, and dynamic memory allocation.

Prerequisites: IT 102 and CPDM 120 (minimum grade C for both)

**SET 191 Part-Time Cooperative Education 1: Software Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**SET 192 Part-Time Cooperative Education 2: Software Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 191

**SET 193 Part-Time Cooperative Education 3: Software Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 192

**SET 194 Part-Time Cooperative Education 4: Software Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 193

**SET 195 Part-Time Cooperative Education 5: Software Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 194

**SET 196 Part-Time Cooperative Education 6: Software Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 195

**SET 252 C Programming 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of SET 151, using the C++ computer programming language. Topics include: classes, object-oriented programming techniques, polymorphism, inheritance, encapsulation, pointers, memory management, overloading, templates, and advanced data structures.

Prerequisites: SET 151

**SET 253 C Programming 3**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of SET 252, using the C# computer programming language. Topics include: program design, database programming techniques using stored procedures, and views with SQL Server.

Prerequisites: IT 111 and SET 252

**SET 290 Software Engineering Technology Capstone**

**3 Credits. 1 Lecture Hour. 4 Lab Hours.**

Students apply their programming and database skills to complete a software application.

Prerequisites: IT 103 and IT 111 and SET 252

**SET 291 Full-Time Cooperative Education 1: Software Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**SET 292 Full-Time Cooperative Education 2: Software Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 291

**SET 293 Full-Time Cooperative Education 3: Software Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 292

**SET 294 Internship 1: Software Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**SET 295 Internship 2: Software Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 294

## Computer Software Development Major and Computer Software Development Certificate (CSD & CSDC)

### Computer Programming and Database Management - Computer Software Development Major (CSD)

The Computer Programming and Database Management - Computer Software Development Major (CSD) is an online degree focuses on the design, development, implementation, and maintenance of

software used in a variety of industries. Students gain knowledge of computer operating systems and software development using several programming languages.

Graduates earn an Associate of Applied Science degree and are prepared to enter the workforce as skilled computer programmers and systems integrators. Graduates may continue their education in a bachelor's degree program in computer science, information systems, business informatics, or business administration.

The Computer Software Development Major is primarily offered as an online degree for students who seek that instructional method. Some of the required courses can be taken through in-person classes.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Computer Software Development Certificate (CSDC)

The Computer Software Development Certificate assists individuals seeking computer skills needed in a variety of industries, focusing on current software development languages, object-oriented programming concepts, and database theory.

The certificate is intended for experienced programmers looking to update or enhance their skills, or for individuals preparing to enter the information technology field who already have a bachelor's degree in another discipline.

The certificate can be completed in three semesters, and all courses are offered through online education.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Computer Programming and Database Management - Computer Software Development Major (CSD)

Semester 1		Lec	Lat	Credits
FYE 100	College Survival Skills ( B)	1	0	1
ENG 101	English Composition 1 ( G)	3	0	3
IT 100	Computer Programming Foundations ( B)	2	3	3
PHI 110	Ethics ( G)	3	0	3
MAT XXX	Mathematics Elective (G)	2	2	3
Semester 2				
IT 101	Programming 1 ( B)	2	3	3
IT 111	Database Design and SQL 1 ( B)	2	3	3

ENG 10X English Composition Elective (G)		3	0	3
CPDM 210 System Analysis and Design ( T)		2	3	3
<b>Semester 3</b>				
IT 102 Programming 2 ( B)		2	3	3
CPDM 120 Fundamentals of Object-Oriented Programming using Python ( T)		2	3	3
XXX XXX Technical Track Elective 1 ( T)		2	3	3
ECO 1XX Economics Elective (G)		3	0	3
<b>Semester 4</b>				
IT 161 Java Programming 1 ( T)		2	3	3
SET 151 C Programming 1 ( T)		2	3	3
IT 117 Web Application Development 1 ( T)		2	3	3
XXX XXX Technical Track Elective 2 ( T)		1	40	2
<b>Semester 5</b>				
CPDM 290 Computer Programming and Database Management Capstone ( T)		2	3	3
SET 252 C Programming 2 ( T)		2	3	3
IT 262 Java Programming 2 ( T)		2	3	3
IT 218 Web Application Development 2 ( T)		2	3	3
Total Credits:		44	84	60

## Electives

### Mathematics Elective

MAT 124 Applied Algebra and Geometry	4
MAT 125 Algebra and Trigonometry *	4
MAT 131 Statistics 1	3
MAT 151 College Algebra	4

### Economics Elective

ECO 105 Principles of Microeconomics	3
ECO 110 Principles of Macroeconomics	3

### English Composition Elective

ENG 102 English Composition 2: Contemporary Issues	3
ENG 103 English Composition 2: Writing about Literature	3
ENG 104 English Composition 2: Technical Communication	3
ENG 105 English Composition 2: Business Communication	3

### Technical Track Electives (Choose courses from 1 track)

#### Database Analytics Track

IT 112 Database Design and SQL 2	3
IT 212 Business Intelligence, Data Warehousing, and Reporting	3

### Experiential Learning Track (Choose courses from 1 experiential learning group)

#### Cooperative Education Experiential Learning

CPDM 190 Cooperative Education Preparation: Computer Programming and Database Management	1
CPDM 291 Full-Time Cooperative Education 1: Computer Programming and Database Management	2
CPDM 292 Full-Time Cooperative Education 2: Computer Programming and Database Management	2

#### Project-Based Experiential Learning

CPDM 190 Cooperative Education Preparation: Computer Programming and Database Management	1
CPDM 296 Project-Based Learning 1	2
CPDM 297 Project-Based Learning 2	2

\* Not available online

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Computer Software Development Certificate (CSDC)

### First Year

Semester 1		Lec	Lat	Credits
IT 101 Programming 1		2	3	3
IT 111 Database Design and SQL 1		2	3	3

### Semester 2

IT 102 Programming 2		2	3	3
CPDM 120 Fundamentals of Object-Oriented Programming using Python		2	3	3

### Semester 3

XXX XXX Technical Elective 1		2	3	3
XXX XXX Technical Elective 2		2	3	3

Total Credits: 12 18 18

## Electives

### Technical Electives (select 2 courses)

IT 161 Java Programming 1	3
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SET 151	C Programming 1	3
IT 117	Web Application Development 1	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Computer Programming and Database Management (CINS, CSD, SET)

- Ability to collect, disseminate, analyze, and apply the requirements for a specific software development project.
- Ability to write, test, and maintain software applications utilizing current and relevant programming languages.
- Ability to design and implement a normalized relational database(s) to meet the needs of the software development project.
- Ability to effectively utilize databases and database management systems to organize, store, and retrieve data for use in application software.
- Ability to create application software that is intuitive for a wide range of users.
- Ability to effectively articulate ideas, recommendations, and solutions.
- Ability to lead and/or participate effectively in teams.
- Ability to utilize appropriate resources to broaden individual knowledge and to apply the industry's latest development tools, techniques, and standards.

## Faculty

### Program Chair/Advisor

Robert (Bob) Nields, MBA  
robert.nields@cincinnatiastate.edu

### Co-op Coordinator

Noelle Grome, MEd, MA  
noelle.grome@cincinnatiastate.edu

### Advisor

Bernell Prince, BS  
bernell.prince@cincinnatiastate.edu

## CPDM Courses

### CPDM 120 Fundamentals of Object-Oriented Programming using Python

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of object-oriented programming using the Python programming language. Topics include: understanding Python; applying concepts of object-oriented design and programming by developing classes, methods, and properties using the principles of encapsulation, abstraction, inheritance, and polymorphism.

Prerequisites: IT 101 and IT 111 (minimum grade C for both)

### CPDM 145 Data Reporting

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on using Crystal Reports as the tool to design and deliver reports that include tables, charts, and graphs as part of a Web-based application linked to an SQL server database.

Prerequisites: IT 101, IT 110, IT 111 or CIT 110 (minimum grade C for all)

### CPDM 151 ASP.NET C# 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the ASP.NET framework using C#. Topics include: introduction to C# language and syntax, Web forms, server controls, master pages, AJAX, and data driven applications.

Prerequisites: IT 101, IT 110, IT 111, (minimum grade C for all)

### CPDM 152 ASP.NET C# 2

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of CPDM 151. Topics include: advanced ASP.NET server controls, building custom classes, Web services, designing Web applications from abstract requirements, and effectively utilizing online reference materials.

Prerequisites: CPDM 151

### CPDM 190 Cooperative Education Preparation: Computer Programming and Database Management

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that prepares students in the CPDM program for cooperative education. Topics include: using the PlacePro software system, resume development, interview skills, and cooperative education requirements, policies and procedures.

Prerequisites: None

### CPDM 191 Part-Time Cooperative Education 1: Computer Programming and Database Management

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### CPDM 192 Part-Time Cooperative Education 2: Computer Programming and Database Management

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 191

### CPDM 193 Part-Time Cooperative Education 3: Computer Programming and Database Management

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 192

**CPDM 194 Part-Time Cooperative Education 4: Computer Programming and Database Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 193

**CPDM 195 Part-Time Cooperative Education 5: Computer Programming and Database Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 194

**CPDM 196 Part-Time Cooperative Education 6: Computer Programming and Database Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 195

**CPDM 210 System Analysis and Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts in system analysis and design, within the framework of the system development life cycle. Topics include: business case analysis, requirement gathering, requirement modeling, enterprise modeling, and development strategies.

Prerequisites: None

**CPDM 211 Business Application Development 1: RPGLE/DB2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on the IBM operating system and utilities, including DB2, Control Language, Query, SDA, and SQL. Topics include: RPGLE utilization of forms/specifications, language operation codes and special functions used to generate reports, and transaction-level file maintenance.

Prerequisites: IT 102

**CPDM 212 Business Application Development 2: RPGLE/DB2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of CPDM 211. Topics include: RPGLE procedural programming including arrays/list processing, interactive applications, and subfiles; interactive and embedded SQL; and ILE programming through service programs to address introductory cross-platform programming.

Prerequisites: CPDM 211

**CPDM 230 Mobile Application Development****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on designing and programming applications for current mobile devices. Topics include: GUI programming application structure; and considerations related to networks, databases, video, GPS sensors, and multi-touch technology.

Prerequisites: IT 102

**CPDM 240 Emerging Technologies: Web and Mobile Applications****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on emerging technologies in software and applications development for the web and mobile devices.

Prerequisites: CPDM 230

**CPDM 250 Game Design and Society****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course that examines the interdisciplinary natures of games and the fundamentals of game design. Topics include: history of games and play in society; game genres; game technical and experiential features; characteristics of game players; and creating game concepts, worlds, and characters.

Prerequisites: IT 117

**CPDM 255 Web Game Development****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on introductory programming for web games and similar interactive media using web programming languages such as JavaScript and HTML. Topics include: game programming frameworks, web programming syntax, web programming libraries for games, using a game loop, using sprites, interactive GUI programming, and creating the game environment.

Prerequisites: CPDM 250

**CPDM 290 Computer Programming and Database Management Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students work on a team project that demonstrates mastery of skills gained throughout their degree studies. Topics include: developing a project idea, conducting a feasibility study for the idea, gathering and analyzing requirements, and designing and implementing a solution.

Prerequisites: IT 218 or IT 262 or SET 253

**CPDM 291 Full-Time Cooperative Education 1: Computer Programming and Database Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CPDM 292 Full-Time Cooperative Education 2: Computer Programming and Database Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 291

**CPDM 293 Full-Time Cooperative Education 3: Computer Programming and Database Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 292

**CPDM 294 Internship 1: Computer Programming and Database Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 190

**CPDM 295 Internship 2: Computer Programming and Database Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 294

**CPDM 296 Project-Based Learning 1****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time project-based learning experience related to their degree. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IT 102

**CPDM 297 Project-Based Learning 2****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time project-based learning experience related to their degree. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 296 or CPDM 291

**IT Courses****IT 100 Computer Programming Foundations****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts related to computer programming. Topics include: problem solving and developmental tools, design techniques such as flow charting and pseudo coding, and testing techniques used in programming.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**IT 101 Programming 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to software development. Topics include: application design methods, application testing methods, the sequential structure of programming, the conditional structure of programming, variables, and modular programming concepts using procedures and functions.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**IT 102 Programming 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 101. Topics include: the iterative programming structure, database programming, array processing, and string manipulation techniques.

Prerequisites: IT 101 and IT 111 (minimum grade C for both)

**IT 103 .NET Programming 3****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 102. Topics include: creating, debugging, and maintaining web-based database applications using the .NET framework.

Prerequisites: IT 102 and IT 111

**IT 105 Information Technology Concepts****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on information technology fundamentals. Topics include: the internet, software, hardware, input/output (I/O) and storage, operating systems, communications and networks, database management, security, system development, programming, enterprise computing, and numbering systems. The course is delivered through online instruction only.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**IT 110 HTML with CSS and JavaScript****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on internet programming using HTML, CSS, and JavaScript. Topics include: HTML commands, cascading style sheets, JavaScript commands, web applications (apps), and dynamic web pages.

Prerequisites: None

**IT 111 Database Design and SQL 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of relational database design and implementation using Microsoft SQL Server. Topics include: SQL Enterprise Manager, fundamentals of database design and normalization, data import and export, Structured Query Language (SQL), indexes and keys, views, and stored procedures.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**IT 112 Database Design and SQL 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 111. Topics include: advanced stored procedures using transact SQL, user defined functions, triggers, user defined data types, full text searching, replication, database maintenance plans, and designing data models from abstract requirements.

Prerequisites: IT 111 (minimum grade C)

**IT 115 Operating Systems Administration 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the Windows operating system used on PCs. Topics include Windows utilization and management, utilities, managing disks, disaster recovery, troubleshooting, user management, productivity tools, and performance issues. This course prepares students for a Microsoft Certification exam.

Prerequisites: ENG 085 or appropriate placement

**IT 116 Operating Systems Administration 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 115. Topics include: managing software problems; managing virtualization; and client configuration, development, deployment, and security. This course prepares students for a Microsoft Certification exam.

Prerequisites: IT 115 (minimum grade C)

**IT 117 Web Application Development 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of web-based application development. Topics include: current front-end and back-end technologies used to develop business-related applications, and understanding infrastructure to support application development.

Prerequisites: IT 102 and CPDM 120 (minimum grade C for both)

**IT 118 Web Application Development 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT-117. Topics include: using current front-end and back-end technologies to develop business-related applications.

Prerequisites: IT 117

**IT 140 PHP and MySQL****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course in PHP web programming with a MySQL database. Topics include: PHP language, syntax, variables, and forms; MySQL database design; connecting to a MySQL database using PHP; inserting, editing, and deleting MySQL data using PHP; and building dynamic web pages using PHP and MySQL.

Prerequisites: IT 101 and IT 110

**IT 150 Logistics and Distribution Technology****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on technologies and software used in supply chain management for freight, air, and maritime logistics operations. Topics include: barcodes, radio-frequency identification (RFID), Wi-Fi tags, logistics and inventory software, high frequency tracking, and passive/active tracking.

Prerequisites: None

**IT 161 Java Programming 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of the Java programming language. Topics include: data types, variables, basic command line input/output, decisions, loops, procedures, string manipulation, arrays, object-oriented development, event programming, and database programming.

Prerequisites: CPDM 120 and IT 102 (minimum grade C for both)

**IT 162 Java Programming 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 161. Topics include: Java Server Pages (JSP) and complex database applications using Java and JSP.

Prerequisites: IT 161

**IT 212 Business Intelligence, Data Warehousing, and Reporting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts, technologies, and techniques used to effectively consolidate, arrange, and analyze large amounts of data. Topics include: decision support systems, data mining, and how to derive business value from large amounts of data.

Prerequisites: IT 112

**IT 215 Scripting****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on task automation and configuration management using Microsoft PowerShell programming language. Topics include: modifying existing PowerShell scripts, and creating new scripts to automate common tasks.

Prerequisites: NETB 155

**IT 218 Web Application Development 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 117. Topics include advanced front-end and back-end processing to develop advanced web-based applications.

Prerequisites: IT 117

**IT 220 Emerging Topics in Computer Software Development****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on current topics related to Computer Software Development such as data reporting, XML, and other new concerns.

Prerequisites: IT 101, IT 110, IT 111

**IT 262 Java Programming 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 161, with focus on completing complex projects using Java and associated technologies.

Prerequisites: IT 161

## Software Engineering Technology Major (SET)

### Computer Programming and Database Management - Software Engineering Technology Major (SET)

The Computer Programming and Database Management - Software Engineering Technology Major (SET) focuses on the design, development, implementation, and maintenance of software used in a variety of industries.

Students gain knowledge of computer operating systems and software development using several programming languages, and select a technical concentration to enhance their technical skills. Students also gain knowledge of core math and science concepts and skills.

Graduates earn an Associate of Applied Science degree and are prepared to enter the workforce as skilled computer programmers and systems integrators. Graduates may continue their education in a bachelor's degree program in engineering, engineering technology, mathematics, or computer science.

Although some required courses are available through evening and/or online classes, most of the required courses for the Software Engineering Technology Major are scheduled on Monday through Friday between 8 a.m. and 5 p.m.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

### Computer Programming and Database Management - Software Engineering Technology Major (SET)

Semester 1		Lec	Lat	Credits
FYE 1XX		1	0	1
First Year Experience				
Elective (B)				
ENG 101	English Composition 1 ( G )	3	0	3
MAT XXX	Mathematics	3	0	3
Elective (G)				
IT 100	Computer Programming Foundations ( B )	2	3	3
XXX XXX		3	0	3
Arts/ Humanities				
Elective (G)				
Semester 2				
IT 101	Programming 1 ( B )	2	3	3
IT 111	Database Design and SQL 1 ( B )	2	3	3

XXX XXX Software Engineering Technology Elective 1 (B)	3	3	4
CPDM 210 System Analysis and Design ( T)	2	3	3
<b>Semester 3</b>			
IT 102 Programming 2 ( T)	2	3	3
CPDM 120 Fundamentals of Object-Oriented Programming using Python ( T)	2	3	3
XXX XXX Software Engineering Technology Elective 2 (B)	3	3	4
ECO 1XX Economics Elective (G)	3	0	3
<b>Semester 4</b>			
XXX XXX Experiential Learning Elective 1 (T)	1	40	2
XXX XXX Technical Concentration Elective 1 (T)	2	3	3
XXX XXX Technical Track Elective 1 (T)	2	3	3
<b>Semester 5</b>			
XXX XXX Software Engineering Technology Elective 3 (B)	3	3	4
XXX XXX Technical Concentration Elective 2 (T)	2	3	3
XXX XXX Technical Track Elective 2 (T)	2	3	3
ENG 10X English Composition Elective (G)	3	0	3
<b>Semester 6</b>			
XXX XXX Experiential Learning Elective 2 (T)	1	40	2

CPDM 290 Computer Programming and Database Management Capstone ( T)	2	3	3
<hr/>			
Total Credits:	49	122	65

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Mathematics Elective

MAT 124	Applied Algebra and Geometry	4
MAT 125	Algebra and Trigonometry	4
MAT 131	Statistics 1	3
MAT 151	College Algebra	4

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Arts/Humanities Elective

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130

### Economics Elective

ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3

### Experiential Learning Electives (Choose courses from 1 experiential learning group)

#### Cooperative Education Experiential Learning

CPDM 190	Cooperative Education Preparation: Computer Programming and Database Management	1
CPDM 291	Full-Time Cooperative Education 1: Computer Programming and Database Management	2
CPDM 292	Full-Time Cooperative Education 2: Computer Programming and Database Management	2

#### Project-Based Experiential Learning

CPDM 296	Project-Based Learning 1	2
CPDM 297	Project-Based Learning 2	2

### Software Engineering Technology Electives (Choose 3 courses)

BIO 131	Biology 1	5
CHE 110	Fundamentals of Chemistry	4
CHE 111	Bio-Organic Chemistry	4
MAT 126	Functions and Calculus	4
MAT 251	Calculus 1	5
MAT 252	Calculus 2	5
PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 152	Physics 2: Algebra and Trigonometry-Based	4

### Technical Concentration Electives (Choose 1 concentration)

#### C Programmer Concentration

SET 151	C Programming 1 (T)	3
SET 252	C Programming 2 (T)	3



<b>Java Programmer Concentration</b>		
IT 161	Java Programming 1 (T)	3
IT 262	Java Programming 2 (T)	3
<b>Web Programmer Concentration</b>		
IT 117	Web Application Development 1 (T)	3
IT 218	Web Application Development 2 (T)	3
<b>Technical Track Electives (Choose 1 track)</b>		
<b>C Programming Track</b>		
SET 151	C Programming 1 (T)	3
SET 252	C Programming 2 (T)	3
<b>Java Programming Track</b>		
IT 161	Java Programming 1 (T)	3
IT 262	Java Programming 2 (T)	3
<b>Web Programming Track</b>		
IT 117	Web Application Development 1 (T)	3
IT 218	Web Application Development 2 (T)	3
<b>IBMi Powersystem Track</b>		
CPDM 211	Business Application Development 1: RPGLE/DB2 (T)	4
CPDM 212	Business Application Development 2: RPGLE/DB2 (T)	4
<b>Mobile Application Track</b>		
CPDM 230	Mobile Application Development (T)	4
CPDM 240	Emerging Technologies: Web and Mobile Applications (T)	4
<b>Computer Networking Track</b>		
NETC 121	Network Communications 1 (T)	3
NETC 122	Network Communications 2 (T)	3
<b>Database Analytics Track</b>		
IT 112	Database Design and SQL 2 (T)	3
IT 212	Business Intelligence, Data Warehousing, and Reporting (T)	3
<b>Game Development Track</b>		
CPDM 250	Game Design and Society (T)	3
CPDM 255	Web Game Development (T)	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Computer Programming and Database Management (CIS, CSD, SET)

- Ability to collect, disseminate, analyze, and apply the requirements for a specific software development project.
- Ability to write, test, and maintain software applications utilizing current and relevant programming languages.
- Ability to design and implement a normalized relational database(s) to meet the needs of the software development project.
- Ability to effectively utilize databases and database management systems to organize, store, and retrieve data for use in application software.
- Ability to create application software that is intuitive for a wide range of users.
- Ability to effectively articulate ideas, recommendations, and solutions.
- Ability to lead and/or participate effectively in teams.
- Ability to utilize appropriate resources to broaden individual knowledge and to apply the industry's latest development tools, techniques, and standards.

## Faculty

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## IT Courses

### IT 100 Computer Programming Foundations

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts related to computer programming. Topics include: problem solving and developmental tools, design techniques such as flow charting and pseudo coding, and testing techniques used in programming.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

### IT 101 Programming 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to software development. Topics include: application design methods, application testing methods, the sequential structure of programming, the conditional structure of programming, variables, and modular programming concepts using procedures and functions. Prerequisites: ENG 085 and MAT 093, or appropriate placements

### IT 102 Programming 2

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 101. Topics include: the iterative programming structure, database programming, array processing, and string manipulation techniques.

Prerequisites: IT 101 and IT 111 (minimum grade C for both)

**IT 103 .NET Programming 3****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 102. Topics include: creating, debugging, and maintaining web-based database applications using the .NET framework.

Prerequisites: IT 102 and IT 111

**IT 105 Information Technology Concepts****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on information technology fundamentals. Topics include: the internet, software, hardware, input/output (I/O) and storage, operating systems, communications and networks, database management, security, system development, programming, enterprise computing, and numbering systems. The course is delivered through online instruction only.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**IT 110 HTML with CSS and JavaScript****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on internet programming using HTML, CSS, and JavaScript. Topics include: HTML commands, cascading style sheets, JavaScript commands, web applications (apps), and dynamic web pages.

Prerequisites: None

**IT 111 Database Design and SQL 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of relational database design and implementation using Microsoft SQL Server. Topics include: SQL Enterprise Manager, fundamentals of database design and normalization, data import and export, Structured Query Language (SQL), indexes and keys, views, and stored procedures.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**IT 112 Database Design and SQL 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 111. Topics include: advanced stored procedures using transact SQL, user defined functions, triggers, user defined data types, full text searching, replication, database maintenance plans, and designing data models from abstract requirements.

Prerequisites: IT 111 (minimum grade C)

**IT 115 Operating Systems Administration 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the Windows operating system used on PCs. Topics include Windows utilization and management, utilities, managing disks, disaster recovery, troubleshooting, user management, productivity tools, and performance issues. This course prepares students for a Microsoft Certification exam.

Prerequisites: ENG 085 or appropriate placement

**IT 116 Operating Systems Administration 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 115. Topics include: managing software problems; managing virtualization; and client configuration, development, deployment, and security. This course prepares students for a Microsoft Certification exam.

Prerequisites: IT 115 (minimum grade C)

**IT 117 Web Application Development 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of web-based application development. Topics include: current front-end and back-end technologies used to develop business-related applications, and understanding infrastructure to support application development.

Prerequisites: IT 102 and CPDM 120 (minimum grade C for both)

**IT 118 Web Application Development 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT-117. Topics include: using current front-end and back-end technologies to develop business-related applications.

Prerequisites: IT 117

**IT 140 PHP and MySQL****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course in PHP web programming with a MySQL database. Topics include: PHP language, syntax, variables, and forms; MySQL database design; connecting to a MySQL database using PHP; inserting, editing, and deleting MySQL data using PHP; and building dynamic web pages using PHP and MySQL.

Prerequisites: IT 101 and IT 110

**IT 150 Logistics and Distribution Technology****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on technologies and software used in supply chain management for freight, air, and maritime logistics operations. Topics include: barcodes, radio-frequency identification (RFID), Wi-Fi tags, logistics and inventory software, high frequency tracking, and passive/active tracking.

Prerequisites: None

**IT 161 Java Programming 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of the Java programming language. Topics include: data types, variables, basic command line input/output, decisions, loops, procedures, string manipulation, arrays, object-oriented development, event programming, and database programming.

Prerequisites: CPDM 120 and IT 102 (minimum grade C for both)

**IT 162 Java Programming 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 161. Topics include: Java Server Pages (JSP) and complex database applications using Java and JSP.

Prerequisites: IT 161

**IT 212 Business Intelligence, Data Warehousing, and Reporting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts, technologies, and techniques used to effectively consolidate, arrange, and analyze large amounts of data. Topics include: decision support systems, data mining, and how to derive business value from large amounts of data.

Prerequisites: IT 112

**IT 215 Scripting****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on task automation and configuration management using Microsoft PowerShell programming language. Topics include: modifying existing PowerShell scripts, and creating new scripts to automate common tasks.

Prerequisites: NETB 155

**IT 218 Web Application Development 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 117. Topics include advanced front-end and back-end processing to develop advanced web-based applications.

Prerequisites: IT 117

**IT 220 Emerging Topics in Computer Software Development****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on current topics related to Computer Software Development such as data reporting, XML, and other new concerns.

Prerequisites: IT 101, IT 110, IT 111

**IT 262 Java Programming 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 161, with focus on completing complex projects using Java and associated technologies.

Prerequisites: IT 161

**SET Courses****SET 110 HTML for Programmers****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on client-side web development from a programmer's perspective. Topics include: HTML, JavaScript, cascading style sheets (CSS), the document object model (DOM), dynamic HTML (DHTML), and regular expressions.

Prerequisites: None

**SET 151 C Programming 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of the C computer programming language. Topics include: decision statements, loops, functions, arrays, strings, structures, pointers, and dynamic memory allocation.

Prerequisites: IT 102 and CPDM 120 (minimum grade C for both)

**SET 191 Part-Time Cooperative Education 1: Software Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**SET 192 Part-Time Cooperative Education 2: Software Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 191

**SET 193 Part-Time Cooperative Education 3: Software Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 192

**SET 194 Part-Time Cooperative Education 4: Software Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 193

**SET 195 Part-Time Cooperative Education 5: Software Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 194

**SET 196 Part-Time Cooperative Education 6: Software Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 195

**SET 252 C Programming 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of SET 151, using the C++ computer programming language. Topics include: classes, object-oriented programming techniques, polymorphism, inheritance, encapsulation, pointers, memory management, overloading, templates, and advanced data structures.

Prerequisites: SET 151

**SET 253 C Programming 3****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of SET 252, using the C# computer programming language. Topics include: program design, database programming techniques using stored procedures, and views with SQL Server.

Prerequisites: IT 111 and SET 252

**SET 290 Software Engineering Technology Capstone****3 Credits. 1 Lecture Hour. 4 Lab Hours.**

Students apply their programming and database skills to complete a software application.

Prerequisites: IT 103 and IT 111 and SET 252

**SET 291 Full-Time Cooperative Education 1: Software Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**SET 292 Full-Time Cooperative Education 2: Software Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 291

**SET 293 Full-Time Cooperative Education 3: Software Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 292

**SET 294 Internship 1: Software Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**SET 295 Internship 2: Software Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 294

## Electrical Engineering Technologies

The Electrical Engineering Technologies associate's degree program offers three majors that address needs of today's industry.

- **Electrical Engineering Technology - Biomedical Equipment Major (BMT)** prepares graduates to work for hospitals or medical device manufacturers. The program provides knowledge of electronics and computer networking systems and a specialization in medical instrumentation.
- **Electrical Engineering Technology - Electronics Systems Major (ESET)** provides graduates with knowledge and skills in analog and digital electronics, microprocessor systems, computer hardware and software, computer applications, network communications, programmable logic devices, remote control systems, and video systems.
- **Electrical Engineering Technology - Power Systems Major (PSET)** prepares graduates to meet current and future needs related to technical support for utility companies, electrical contractors, HVAC contractors, and industrial electrical design and maintenance firms.

All three majors lead to an Associate of Applied Science degree, and prepare graduates to successfully pursue a bachelor's degree and to enter the workforce and advance professionally.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

## Electrical Engineering Technology - Biomedical Equipment Major (BMT)

### Electrical Engineering Technology - Biomedical Equipment Major (BMT)

Graduates of the program Electrical Engineering Technology - Biomedical Equipment Major are welcomed in hospitals and companies where medical equipment is designed, tested, installed, and operated because of their strong background in electronics and information systems along with knowledge of specialized biomedical equipment.

Graduates of the Biomedical Equipment Major earn an Associate of Applied Science degree and are prepared to take on the challenging tasks of hospital healthcare technology management, by maintaining multi-million dollar equipment such as MRI, CT, sonogram, X-ray, and other medical equipment.

The curriculum also provides an effective foundation for transfer into a related bachelor's degree program.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

### Electrical Engineering Technology - Biomedical Equipment Major (BMT)

Semester 1		Lec	Lab	Credits
EET 131	Circuit Analysis 1 ( <b>B</b> )	3	2	4
MAT XXX	Mathematics	3	2	4
Elective 1 ( <b>G</b> )				
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
FYE 1XX	First Year Experience	1	0	1
Elective ( <b>B</b> )				
Semester 2				
EET 132	Circuit Analysis 2 ( <b>T</b> )	3	2	4
CIT 190	Career Preparation: Engineering and Information Technologies ( <b>B</b> )	1	0	1
EET 121	Digital Systems 1 ( <b>T</b> )	2	3	3
BMT 161	Biomedical Instrumentation 1 ( <b>T</b> )	3	3	4
Semester 3				
EET 291	Full-Time Cooperative Education 1: Electronics Engineering Technology ( <b>T</b> )	1	40	2
NETC 121	Network Communications 1 ( <b>B</b> )	2	2	3
MAT XXX	Mathematics	3	2	4
Elective 2 ( <b>B</b> )				

**Semester 4**

BIO 117	Human Body in Health and Disease ( <b>B</b> )	3	0	3
ESET 251	Electronics ( <b>T</b> )	3	2	4
PHY XXX	Physics Elective ( <b>G</b> )	3	2	4
EET 122	Digital Systems 2 ( <b>T</b> )	2	3	3

**Semester 5**

ENG 10X	English Elective ( <b>G</b> )	3	0	3
BMT 262	Biomedical Instrumentation 2 ( <b>T</b> )	3	3	4
EMET XXX	Electro-Mechanical Engineering Technology Elective ( <b>T</b> )	2	3	3
EET XXX	Electrical Engineering Technology Elective 1 ( <b>T</b> )	2	3	3

**Semester 6**

EET XXX	Electrical Engineering Technology Elective 2 ( <b>T</b> )	1	40	2
ECO 10X	Economics Elective ( <b>G</b> )	3	0	3

Total Credits:		50	112	65
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**Electives****Mathematics Elective 8**

Take one of the following series:

MAT 125	Algebra and Trigonometry & MAT 126	and Functions and Calculus
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Or

MAT 251	Calculus 1 & MAT 252	and Calculus 2
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**First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**Physics Elective**

PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

**Electro-Mechanical Engineering Technology Elective 3**

EMET 245	Laser 1	3
EMET 141	Programmable Logic Controllers	3
EMET 252	Motors, Motor Controls, and Variable Drives	3
EMET 270	Robotics and Servomechanisms	3

**Electrical Engineering Technology Electives 3**

Any EET (2XX level)		
or, any ESET (2XX level)		
or, any PSET		
or, any EMET not used to fulfill the Electro-Mechanical Engineering Technology Elective		

**Economics Elective**

ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3

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- This curriculum displays only course numbers without the added letter.
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G = General Education course in this curriculum

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T = Technical course in this curriculum

**Electrical Engineering Technology - Biomedical Equipment Major (BMT)**

- Ability to select and apply knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies.
- Ability to function effectively as a member or leader on a technical team.
- Ability to apply written, oral, and graphical communication in both technical and non-technical environments; and ability to identify and use appropriate technical literature.
- Ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.
- Commitment to quality, timeliness, and continuous improvement.
- Ability to apply project management techniques to electrical/electronic(s)/biomedical systems development.
- Proficiency in the application of circuit analysis and design, network systems, healthcare software, analog and digital electronics, electric motor technology, and engineering standards to the building, testing, operation, and maintenance of electrical, electronic, and biomedical systems.
- Proficiency in using exceptional troubleshooting skills based on hands-on knowledge of key biomedical instrumentation.

## Faculty

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## BMT Courses

### **BMT 161 Biomedical Instrumentation 1** **4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on the role of the biomedical engineering technician, and fundamentals of systems and device maintenance. Topics include: hospital organization and regulations, professional certifications, safety, medical device maintenance, and technology management.  
Prerequisites: EET 131

### **BMT 191 Part-Time Cooperative Education 1: Biomedical Equipment and Information Systems Technology** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

### **BMT 192 Part-Time Cooperative Education 2: Biomedical Equipment and Information Systems Technology** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 191

### **BMT 193 Part-Time Cooperative Education 3: Biomedical Equipment and Information Systems Technology** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 192

### **BMT 194 Part-Time Cooperative Education 4: Biomedical Equipment and Information Systems Technology** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 193

### **BMT 195 Part-Time Cooperative Education 5: Biomedical Equipment and Information Systems Technology** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 194

### **BMT 196 Part-Time Cooperative Education 6: Biomedical Equipment and Information Systems Technology** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 195

### **BMT 262 Biomedical Instrumentation 2** **4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of BMT 161. Topics include: patient and surgical monitoring, complex medical devices, imaging equipment, medical technology management, equipment malfunction, and globalization.  
Prerequisites: BMT 161 and EET 122 and EET 132 and ESET 251

### **BMT 291 Full-Time Cooperative Education 1: Biomedical Equipment and Information Systems Technology** **2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

### **BMT 292 Full-Time Cooperative Education 2: Biomedical Equipment and Information Systems Technology** **2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 291

### **BMT 293 Full-Time Cooperative Education 3: Biomedical Equipment and Information Systems Technology** **2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 292

**BMT 294 Internship 1: Biomedical Equipment and Information Systems Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BMT 151 and CIT 190

**BMT 295 Internship 2: Biomedical Equipment and Information Systems Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BMT 294

**EET Courses****EET 100 Introduction to Electrical Engineering Technology****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

An introduction to concepts and measuring skills for the electronics field. Topics include: current, voltage, power, Ohm's law, series circuits, meter reading, software simulation use, and circuit construction.

Prerequisites: MAT 093 or appropriate placement

**EET 101 Electronic Fundamentals 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on electrical fundamentals for non-electrical majors. Topics include: DC and AC circuit theory, electrical motors and controls, electromagnetic devices, and transformers.

Prerequisites: MAT 096 or MAT 124, and ENG 085, or appropriate placements

**EET 121 Digital Systems 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on analyzing, designing, and troubleshooting digital logic circuits. Topics include: basic gates and programmable logic devices (PLDs); number systems and codes; Boolean algebra; circuit simplification; and functions of logic circuits, latches, flip-flops, counters, timers, and memory.

Prerequisites: EET 131, and MAT 124 (minimum grade C) or appropriate placement

**EET 122 Digital Systems 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of EET 121. Topics include: counter design and cascading, shift registers, PLD applications, microprocessor registers, input/output (I/O), busses, direct memory access (DMA), memory expansion, and assembly language programming.

Prerequisites: EET 121

**EET 131 Circuit Analysis 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on DC electric circuits. Topics include: current, voltage, resistance, and power; laws applied to series, parallel, and series-parallel circuits; Thevenin's, Superposition, and Norton's theorems; steady state and transient behavior of capacitive and inductive devices; and magnetic properties.

Prerequisites: MAT 124 (minimum grade C) or appropriate placement  
Ohio Transfer Assurance Guide Approved

Ohio Career-Technical Assurance Guide Approved

**EET 132 Circuit Analysis 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of EET 131. Topics include: sinusoidal wave characteristics; complex numbers; phasors; transformers; RC, RL, and RLC networks; filter networks; three-phase and poly-phase systems; and power factor analysis.

Prerequisites: EET 131, and MAT 125 (minimum grade C) or appropriate placement

Ohio Transfer Assurance Guide Approved

**EET 191 Part-Time Cooperative Education 1: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EET 192 Part-Time Cooperative Education 2: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 191

**EET 193 Part-Time Cooperative Education 3: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 192

**EET 194 Part-Time Cooperative Education 4: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 193

**EET 195 Part-Time Cooperative Education 5: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 194

**EET 196 Part-Time Cooperative Education 6: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 195

**EET 291 Full-Time Cooperative Education 1: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EET 292 Full-Time Cooperative Education 2: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 291

**EET 293 Full-Time Cooperative Education 3: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 292

**EET 294 Internship 1: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 131 and CIT 190

**EET 295 Internship 2: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 294

## Electrical Engineering Technology - Electronics Systems Major (ESET)

### Electrical Engineering Technology - Electronics Systems Major (ESET)

Graduates of the Electrical Engineering Technology - Electronics Systems Major are prepared to pursue careers in diverse engineering-

related fields such as computer design and repair, digital systems, microcomputer systems, microelectronics, and telecommunications.

Graduates earn an Associate of Applied Science degree. The curriculum also provides an effective foundation for transfer into a related bachelor's degree program.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Electrical Engineering Technology - Electronics Systems Major (ESET)

Semester 1		Lec	Lab	Credits
EET 131	Circuit Analysis 1 ( B )	3	2	4
ENG 101	English Composition 1 ( G )	3	0	3
FYE 1XX	First Year Experience ( B )	1	0	1
MAT XXX	Mathematics Elective 1 ( G )	3	2	4
Semester 2				
EET 121	Digital Systems 1 ( T )	2	3	3
EET 132	Circuit Analysis 2 ( T )	3	2	4
CIT 190	Career Preparation: Engineering and Information Technologies ( B )	1	0	1
MAT XXX	Mathematics Elective 2 ( B )	3	2	4
Semester 3				
EET 291	Full-Time Cooperative Education 1: Electronics Engineering Technology ( T )	1	40	2
NETC 121	Network Communications 1 ( B )	2	2	3
PHY XXX	Physics Elective ( G )	3	2	4
Semester 4				
EET 122	Digital Systems 2 ( T )	2	3	3
ESET 251	Electronics ( T )	3	3	4
IT 101	Programming 1 ( B )	2	3	3
ENG 10X	English Elective ( G )	3	0	3
Semester 5				
ESET 290	Electronic Systems Engineering Technology Capstone Project ( T )	2	4	4
ESET 220	Microprocessor Systems ( T )	3	3	4



EMET XXX Electro-Mechanical Engineering Technology Elective (T)	2	3	3
EET XXX Electrical Engineering Technology Elective 1 (T)	2	3	3
<b>Semester 6</b>			
EET XXX Electrical Engineering Technology Elective 2 (T)	1	40	2
ECO 1XX Economics Elective (G)	3	0	3
<b>Total Credits:</b>	<b>48</b>	<b>117</b>	<b>65</b>

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Mathematics Elective 8

Take one of the following series:

MAT 125 Algebra and Trigonometry  
& MAT 126 and Functions and Calculus

Or

MAT 251 Calculus 1  
& MAT 252 and Calculus 2

### Physics Elective

PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Electro-Mechanical Engineering Technology Elective

EMET 245	Laser 1	3
EMET 141	Programmable Logic Controllers	3
EMET 252	Motors, Motor Controls, and Variable Drives	3
EMET 270	Robotics and Servomechanisms	4

### Electrical Engineering Technology Electives 5

Any EET (2XX level)

or, any ESET (2XX level)

or, any PSET

or, any EMET not used to fulfill the Electro-Mechanical Engineering Technology Elective

### Economics Elective

ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Electrical Engineering Technology - Electronics Systems Major (ESET)

- Ability to select and apply knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies.
- Ability to function effectively as a member or leader on a technical team.
- Ability to apply written, oral, and graphical communication in both technical and non-technical environments; and ability to identify and use appropriate technical literature.
- Ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.
- Commitment to quality, timeliness, and continuous improvement.
- Ability to apply project management techniques to electrical/electronic(s) systems development.
- Proficiency in the application of circuit analysis and design, computer programming, associated software, analog and digital electronics, microcontroller technology, and engineering standards to the building, testing, operation, and maintenance of electrical/electronic(s) systems.
- Ability to integrate and synthesize technical information to resolve discrepancies requiring electrical or electronic knowledge.

## Faculty

### Program Chair

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### Co-op Coordinator

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### Advisors

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## EET Courses

### **EET 100 Introduction to Electrical Engineering Technology** **2 Credits. 1 Lecture Hour. 2 Lab Hours.**

An introduction to concepts and measuring skills for the electronics field. Topics include: current, voltage, power, Ohm's law, series circuits, meter reading, software simulation use, and circuit construction.

Prerequisites: MAT 093 or appropriate placement

### **EET 101 Electronic Fundamentals 1** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on electrical fundamentals for non-electrical majors. Topics include: DC and AC circuit theory, electrical motors and controls, electromagnetic devices, and transformers.

Prerequisites: MAT 096 or MAT 124, and ENG 085, or appropriate placements

### **EET 121 Digital Systems 1** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on analyzing, designing, and troubleshooting digital logic circuits. Topics include: basic gates and programmable logic devices (PLDs); number systems and codes; Boolean algebra; circuit simplification; and functions of logic circuits, latches, flip-flops, counters, timers, and memory.

Prerequisites: EET 131, and MAT 124 (minimum grade C) or appropriate placement

### **EET 122 Digital Systems 2** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of EET 121. Topics include: counter design and cascading, shift registers, PLD applications, microprocessor registers, input/output (I/O), busses, direct memory access (DMA), memory expansion, and assembly language programming.

Prerequisites: EET 121

### **EET 131 Circuit Analysis 1** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on DC electric circuits. Topics include: current, voltage, resistance, and power; laws applied to series, parallel, and series-parallel circuits; Thevenin's, Superposition, and Norton's theorems; steady state and transient behavior of capacitive and inductive devices; and magnetic properties.

Prerequisites: MAT 124 (minimum grade C) or appropriate placement  
Ohio Transfer Assurance Guide Approved

Ohio Career-Technical Assurance Guide Approved

### **EET 132 Circuit Analysis 2** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of EET 131. Topics include: sinusoidal wave characteristics; complex numbers; phasors; transformers; RC, RL, and RLC networks; filter networks; three-phase and poly-phase systems; and power factor analysis.

Prerequisites: EET 131, and MAT 125 (minimum grade C) or appropriate placement

Ohio Transfer Assurance Guide Approved

### **EET 191 Part-Time Cooperative Education 1: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### **EET 192 Part-Time Cooperative Education 2: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 191

### **EET 193 Part-Time Cooperative Education 3: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 192

### **EET 194 Part-Time Cooperative Education 4: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 193

### **EET 195 Part-Time Cooperative Education 5: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 194

### **EET 196 Part-Time Cooperative Education 6: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 195

**EET 291 Full-Time Cooperative Education 1: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EET 292 Full-Time Cooperative Education 2: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 291

**EET 293 Full-Time Cooperative Education 3: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 292

**EET 294 Internship 1: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 131 and CIT 190

**EET 295 Internship 2: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 294

**ESET Courses****ESET 220 Microprocessor Systems****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on designing, programming, and troubleshooting microprocessor systems and applications. Topics include: assembly language programming, interrupt and polled input/output (I/O), interrupt service routines, parallel ports, timer functions, serial interfaces, analog-to-digital (A/D) converters, and external hardware interfaces.

Prerequisites: EET 122

**ESET 251 Electronics****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on semiconductor and amplifier theory and application. Topics include: diode circuits and basic power supplies; bipolar transistor, field-effect transistor (FET), thyristor, and operational amplifier theory; inverters; circuit construction; and troubleshooting.

Prerequisites: EET 132

Ohio Transfer Assurance Guide Approved

**ESET 290 Electronic Systems Engineering Technology Capstone Project****4 Credits. 2 Lecture Hours. 4 Lab Hours.**

Students design a system using analog and digital electronics concepts, and prepare and deliver a professional presentation of their completed project. Topics include: design theory, feasibility study, engineering economics, and presentation skills.

Prerequisites: EET 122 and ESET 251

**Electrical Engineering Technology - Power Systems Major (PSET)****Electrical Engineering Technology - Power Systems Major (PSET)**

Power systems engineers monitor and maintain the quality, availability, reliability, transferability, and safety of the power systems we rely on daily, including smart grid technologies for distributed power generation and smart transmission line system technology.

Graduates of the program Electrical Engineering Technology - Power Systems Major earn an Associate of Applied Science degree, and have the skills and competencies needed to begin careers and advance professionally through technical and management positions in the power systems or electrical engineering fields.

Possible employers include utility companies, industrial organizations, consultants, and other service providers. Graduates also are prepared to continue their studies in a bachelor's degree program.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

**Electrical Engineering Technology - Power Systems Major (PSET)**

Semester 1		Lec	Lat	Credits
EET 131	Circuit Analysis 1 ( B)	3	2	4
ENG 101	English Composition 1 ( G)	3	0	3
FYE 10X		1	0	1
First Year Experience Elective ( B)				
MAT XXX	Mathematics Elective 1 ( G)	3	2	4
EMET 110	Computer Aided Design for Electro-Mechanical Systems ( B)	2	3	3
Semester 2				
EET 132	Circuit Analysis 2 ( T)	3	2	4
MAT XXX	Mathematics Elective 2 ( B)	3	2	4

CIT 190	Career Preparation: Engineering and Information Technologies ( <b>B</b> )	1	0	1
EET 121	Digital Systems 1 ( <b>B</b> )	2	3	3
PSET 140	Power Systems Foundations ( <b>T</b> )	2	2	3
<b>Semester 3</b>				
EET 291	Full-Time Cooperative Education 1: Electronics Engineering Technology ( <b>T</b> )	1	40	2
<b>Semester 4</b>				
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
PSET 225	Industrial and Commercial Power Design ( <b>T</b> )	3	3	4
PHY XXX	Physics Elective ( <b>G</b> )	3	3	4
EMET 252	Motors, Motor Controls, and Variable Drives ( <b>T</b> )	2	3	3
EMET 141	Programmable Logic Controllers ( <b>T</b> )	2	3	3
<b>Semester 5</b>				
ECO 1XX	Economics Elective ( <b>G</b> )	3	0	3
EMET 180	Process Instrumentation ( <b>T</b> )	2	3	3
PSET 275	Protective Relays and Controls ( <b>T</b> )	2	3	3
PSET 290	Power Systems Capstone ( <b>T</b> )	1	2	2
NETC 121	Network Communications 1 ( <b>T</b> )	2	2	3
<b>Semester 6</b>				
EET 292	Full-Time Cooperative Education 2: Electronics Engineering Technology ( <b>T</b> )	1	40	2
Total Credits:		48	118	65

## Electives

### Mathematics Electives 8

Select one of the following series:

MAT 125 Algebra and Trigonometry  
& MAT 126 and Functions and Calculus

Or

MAT 251 Calculus 1  
& MAT 252 and Calculus 2

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Physics Elective

PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5

### Economics Elective

ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Electrical Engineering Technology - Power Systems Major (PSET)

- Ability to select and apply knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies.
- Ability to function effectively as a member or leader on a technical team.
- Ability to apply written, oral, and graphical communication in both technical and non-technical environments; and ability to identify and use appropriate technical literature.
- Ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.
- Commitment to quality, timeliness, and continuous improvement.
- Ability to apply project management techniques to electrical/electronic(s) systems development.
- Proficiency in the application of circuit analysis and design, utilization of network systems, associated software, analog and digital electronics, multiphase analysis, and power systems standards/codes to the building, testing, operation, and maintenance of high power distribution systems.
- Ability to integrate and synthesize technical information to resolve discrepancies requiring electrical or electronic knowledge.

## Faculty

### Program Chair

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## Advisors

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Carole Womeldorf, PhD  
carole.womeldorf@cincinnatiastate.edu

## EET Courses

### **EET 100 Introduction to Electrical Engineering Technology** **2 Credits. 1 Lecture Hour. 2 Lab Hours.**

An introduction to concepts and measuring skills for the electronics field. Topics include: current, voltage, power, Ohm's law, series circuits, meter reading, software simulation use, and circuit construction.

Prerequisites: MAT 093 or appropriate placement

### **EET 101 Electronic Fundamentals 1** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on electrical fundamentals for non-electrical majors. Topics include: DC and AC circuit theory, electrical motors and controls, electromagnetic devices, and transformers.

Prerequisites: MAT 096 or MAT 124, and ENG 085, or appropriate placements

### **EET 121 Digital Systems 1** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on analyzing, designing, and troubleshooting digital logic circuits. Topics include: basic gates and programmable logic devices (PLDs); number systems and codes; Boolean algebra; circuit simplification; and functions of logic circuits, latches, flip-flops, counters, timers, and memory.

Prerequisites: EET 131, and MAT 124 (minimum grade C) or appropriate placement

### **EET 122 Digital Systems 2** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of EET 121. Topics include: counter design and cascading, shift registers, PLD applications, microprocessor registers, input/output (I/O), busses, direct memory access (DMA), memory expansion, and assembly language programming.

Prerequisites: EET 121

### **EET 131 Circuit Analysis 1** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on DC electric circuits. Topics include: current, voltage, resistance, and power; laws applied to series, parallel, and series-parallel circuits; Thevenin's, Superposition, and Norton's theorems; steady state and transient behavior of capacitive and inductive devices; and magnetic properties.

Prerequisites: MAT 124 (minimum grade C) or appropriate placement  
Ohio Transfer Assurance Guide Approved

Ohio Career-Technical Assurance Guide Approved

### **EET 132 Circuit Analysis 2** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of EET 131. Topics include: sinusoidal wave characteristics; complex numbers; phasors; transformers; RC, RL, and RLC networks; filter networks; three-phase and poly-phase systems; and power factor analysis.

Prerequisites: EET 131, and MAT 125 (minimum grade C) or appropriate placement

Ohio Transfer Assurance Guide Approved

### **EET 191 Part-Time Cooperative Education 1: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### **EET 192 Part-Time Cooperative Education 2: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 191

### **EET 193 Part-Time Cooperative Education 3: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 192

### **EET 194 Part-Time Cooperative Education 4: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 193

### **EET 195 Part-Time Cooperative Education 5: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 194

**EET 196 Part-Time Cooperative Education 6: Electronics Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 195

**EET 291 Full-Time Cooperative Education 1: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EET 292 Full-Time Cooperative Education 2: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 291

**EET 293 Full-Time Cooperative Education 3: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 292

**EET 294 Internship 1: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 131 and CIT 190

**EET 295 Internship 2: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 294

**PSET Courses****PSET 110 Power Systems Computer Aided Drafting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on computer aided drafting and design for power systems. Topics include: CAD fundamentals; and designing, modifying, and editing documents that apply to the power systems industry.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

**PSET 120 Geographic Information Systems (GIS)****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills used for computer-aided electronic mapping as applied to the power grid system. Topics include: power grid mapping, map databases, spatial positioning, analysis, modeling, and visualization.

Prerequisites: PSET 110

**PSET 130 National Electric Code and National Electric Safety Code****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the purpose, intent, use, and enforcement of the National Electric Code (NEC) and the National Electric Safety Code (NESC) in electrical design and in specifications of equipment used in power systems.

Prerequisites: EET 131

**PSET 140 Power Systems Foundations****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to electrical power systems from generation to utilization. Topics include: purpose, composition, operating characteristics, and design considerations of power system components; power quality and safety; fundamentals of AC waveforms including single and three phase connections, voltage and current calculations; per-unit representation; and power factor.

Prerequisites: EET 131

**PSET 150 Electrical Power Technology Studies: Adv****30 Credits. 30 Lecture Hours. 0 Lab Hour.**

Students complete apprenticeship education, post-secondary education, or work experience related to skills used in the electrical power industry.

Prerequisites: Program Chair consent

Instructor Consent Required

**PSET 191 Part-Time Cooperative Education 1: Power Systems Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**PSET 192 Part-Time Cooperative Education 2: Power Systems Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 191

**PSET 193 Part-Time Cooperative Education 3: Power Systems Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 192

**PSET 194 Part-Time Cooperative Education 4: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 193

**PSET 195 Part-Time Cooperative Education 5: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 194

**PSET 196 Part-Time Cooperative Education 6: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 195

**PSET 225 Industrial and Commercial Power Design**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on design of industrial and commercial building electrical distribution systems. Topics include: load calculations, wiring devices, overcurrent protection, conductors, conduit and raceway systems, panelboards and switchboards, voltage drop calculations, grounding and bonding, branch circuit and feeder design, and motor circuits.

Prerequisites: PSET 140

**PSET 250 Power Transmission and Distribution Design**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on overhead and underground transmission and distribution systems. Topics include: operation, maintenance, and monitoring of transmission and distribution equipment; transmission line parameters; power flow; design of conductor support structures; overview of system protection; smart grid concepts; and data collection mechanisms.

Prerequisites: PSET 140

**PSET 260 Stationary Engineering with Instrumentation and Controls**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on steam plant operation and associated instrumentation and controls. Topics include: basic components, maintenance requirements for utility boilers, combined cycle and cogeneration systems, nuclear steam generation, standard pressure and horsepower calculations, and control of major steam boiler processes.

Prerequisites: EMET 140 and EMET 240

**PSET 275 Protective Relays and Controls**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on protective relays and their application to electric transmission and distribution systems. Topics include: power regulation and communication requirements; electro-mechanical relays and breakers, microprocessor relays and synchrophasors; transformers; transmission and distribution lines; capacitor banks; and regulator protection.

Prerequisites: EMET 240 and PSET 225

**PSET 290 Power Systems Capstone**

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

Students work in teams to complete a design project. Topics include: design concepts, modeling, detail and assembly drawings, bill of materials, vendors, costs, and manufacture of prototype.

Prerequisites: PSET 220 and PSET 225

**PSET 291 Full-Time Cooperative Education 1: Power Systems Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**PSET 292 Full-Time Cooperative Education 2: Power Systems Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 291

**PSET 293 Full-Time Cooperative Education 3: Power Systems Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 292

**PSET 294 Internship 1: Power Systems Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 140

**PSET 295 Internship 2: Power Systems Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 294

## Electro-Mechanical Engineering Technologies

Electro-Mechanical Engineering Technologies programs prepare graduates, through study of electronics and technical systems, to

work in an industrial setting where automation, robotics, controls, and systems integration are used.

Electro-Mechanical Engineering Technologies include three associate's degree programs and two certificates:

- **Electro-Mechanical Engineering Technology (EMET)**
- **Electro-Mechanical Engineering Technology - Energy Major (EMETE)**
- **Electro-Mechanical Engineering Technology - Laser Major (EMETL)**
- **Building Automation Systems Certificate (BASC)**
- **Laser Certificate (EMETLC)**

These programs address the needs of growing industries in Ohio and the region, including manufacturing of photovoltaic electric panels, wind turbines, and fuel cells; installing and servicing photovoltaic and wind turbine systems; assisting energy efficiency companies and consultants; and using lasers and electro-optics systems in automated manufacturing and research environments.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

## Electro-Mechanical Engineering Technology (EMET)

### Electro-Mechanical Engineering Technology (EMET)

The Electro-Mechanical Engineering Technology program at Cincinnati State is the largest of its kind in Ohio. The program combines electronics engineering technology and mechanical engineering technology, so students develop skills that are highly valued by industrial firms, including a focus on industrial automation. Students gain competencies in controlling systems, linking software and hardware to maintain systems, and improving machines and systems.

Graduates earn an Associate of Applied Science degree and are also prepared to pursue a bachelor's degree in fields such as electronics engineering, electrical engineering, or electro-mechanical engineering.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Electro-Mechanical Engineering Technology (EMET)

Semester 1		Lec	Lat	Credits
EMET 150	Introduction to Controls and Robotics ( B )	1	2	2
CIT 105	OSHA 10 General Industry Safety ( B )	1	0	1
EET 131	Circuit Analysis 1 ( T )	3	2	4

MAT XXX	Mathematics Elective 1 ( G )	3	2	4
EMET 110	Computer Aided Design for Electro-Mechanical Systems ( B )	2	3	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
<b>Semester 2</b>				
EMET 180	Process Instrumentation ( T )	2	3	3
EET 132	Circuit Analysis 2 ( T )	3	2	4
ENG 101	English Composition 1 ( G )	3	0	3
MAT XXX	Mathematics Elective 2 ( B )	3	2	4
EMET 141	Programmable Logic Controllers ( B )	2	3	3
<b>Semester 3</b>				
XXX XXX	Cooperative Education or Transfer Elective 1 ( T )	1	40	2
MET 111	Manufacturing Processes 1 ( B )	2	3	3
<b>Semester 4</b>				
EMET 245	Laser 1 ( T )	2	3	3
EMET 252	Motors, Motor Controls, and Variable Drives ( T )	2	3	3
PHY XXX	Physics Elective ( G )	3	3	4
ENG 10X	English Composition Elective ( G )	3	0	3
<b>Semester 5</b>				
EMET 270	Robotics and Servomechanisms ( T )	2	3	3
EMET 275	Electric Drive Mechanisms ( T )	2	3	3
MET 150	Statics and Strength of Materials for MET ( T )	2	3	3
XXX XXX	Arts/ Humanities or Social/ Behavioral Science Elective ( G )	3	0	3
<b>Semester 6</b>				



XXX XXX	1	40	2
Cooperative Education or Transfer Elective 2 (T)			
Total Credits:	47	120	64

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Mathematics Electives 8

Select one of the following series:

MAT 125 Algebra and Trigonometry  
& MAT 126 and Functions and Calculus

Or

MAT 251 Calculus 1  
& MAT 252 and Calculus 2

### Physics Elective

PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 104	English Composition 2: Technical Communication	3

### Arts/Humanities or Social/Behavioral Science Elective

Any ECO, GEO, HST, LBR, LIT, PHI

### Cooperative Education or Transfer Electives \*

EMET 291	Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology	2
EMET 292	Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology	2
EET 121	Digital Systems 1	3
ESET 251	Electronics	4
MET 140	Engineering Materials	3
CIT 250	Engineering Community	2

\* Program Chair approval is required for students planning to take a Transfer Elective course rather than participate in cooperative education.

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Electro-Mechanical Engineering Technologies (EMET, EMETE, EMETL)

- Demonstrate ability to communicate as an individual, as well as function effectively on teams by applying oral and written skills.
- Demonstrate knowledge of the importance of quality, timeliness, and continuous improvement.
- Demonstrate appropriate mastery of circuit analysis.
- Demonstrate appropriate mastery of CAD.
- Demonstrate ability to identify, analyze, and creatively solve technical and design problems.
- Demonstrate ability to apply fundamental knowledge to conduct experiments, analyze data, interpret data, and apply results to improve processes.
- Demonstrate appropriate mastery of programmable controllers and motor control systems.
- Demonstrate appropriate mastery of programming robots.
- Complete and pass an OSHA 10 General Industry course.

## Faculty

### Program Chair/Advisor

Lawrence (Larry) Feist, BS  
lawrence.feist@cincinnatiastate.edu

### Co-op Coordinator

Sue Dolan, MEd  
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### Advisors

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Carole Womeldorf, PhD  
carole.womeldorf@cincinnatiastate.edu

## Courses

### EMET 110 Computer Aided Design for Electro-Mechanical Systems

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of computer-aided drafting (CAD) and design for electro-mechanical systems, including techniques for generating accurate engineering drawings and 3D models.  
Prerequisites: MAT 096 or MAT 124, or appropriate placement

### EMET 115 Residential Lighting

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of residential lighting. Topics include: safe use of tooling and ladders, removing and installing lamps, identifying commonly-used light fixtures and bulb types, and technician professional demeanor.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

**EMET 120 Residential Weatherization****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts related to the building "envelope," or the structure and shell of a house. Topics include: insulation, windows and doors, HVAC systems, energy use of lighting and appliances, and weatherization terminology.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

**EMET 125 Commercial Lighting****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of commercial lighting. Topics include: safe use of tooling, ladders, and lifts; removing and installing lamps for existing light fixtures (but not replacing the light fixture or ballast); auditing lamps; identifying light fixtures; removing fixture covers; and replacing lamps.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

**EMET 141 Programmable Logic Controllers****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of using programmable logic controllers (PLC). Topics include: PLC applications, ladder logic programming, processor selection and configuration, digital and analog input and output wiring, and human-machine interface (HMI) concepts.

Prerequisites: EET 131 and EMET 150 and MAT 125 or appropriate placement (minimum grade C for all)

**EMET 150 Introduction to Controls and Robotics****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on operation and use of robots in manufacturing applications. Topics include: programmable robotics, flow charting, logic controllers, motors, control language, motion, and quality assurance.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

**EMET 180 Process Instrumentation****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on process instrumentation theory and applications. Topics include: principles and practices of measurement and control of temperature, pressure, flow, level, and analytical quantities; and data acquisition for process instruments and controls.

Prerequisites: EMET 150 and EET 131 (minimum grade C for both)

**EMET 191 Part-Time Cooperative Education 1: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EMET 192 Part-Time Cooperative Education 2: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 191

**EMET 193 Part-Time Cooperative Education 3: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 192

**EMET 194 Part-Time Cooperative Education 4: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 193

**EMET 195 Part-Time Cooperative Education 5: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 194

**EMET 196 Part-Time Cooperative Education 6: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 195

**EMET 210 Energy Efficiency and Audits****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts related to energy consumption. Topics include: conducting energy audits for residential, commercial, and industrial locations; conserving energy; reducing energy consumption; and applying renewable energies.

Prerequisites: None

**EMET 225 Solar and Renewable Energy****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on planning, installing, and maintaining solar and renewable energy devices. Topics include: photovoltaic electrical systems, solar thermal systems, fuel cell technology, and wind turbine technology.

Prerequisites: EMET 210 (minimum grade C)

**EMET 230 Fuel Cells and Wind Devices****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on planning, installing, and maintaining alternative energy sources. Topics include: converting chemical energy to electricity; fuel cell components, power efficiencies, and applications; electrolysis; and wind turbine components.

Prerequisites: EMET 210

**EMET 240 Programmable Logic Controllers, Motors, Motor Controls, and Kinematics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on programmable logic controllers, motors, and variable speed drives and mechanisms. Topics include: operating, troubleshooting, and controlling circuits; calculating speed, torque, horsepower, and efficiency; and machine kinematics.

Prerequisites: EET 132 (minimum grade C)

**EMET 241 Building Automation 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of building automation systems and commercial HVAC/R systems. Topics include: system components, building automation and control theory, psychometrics, air and water systems, boilers, chillers, lighting, thermostats, pumps, PLC, and motor controls.

Prerequisites: EET 132

Corequisites: EMET 240

Instructor Consent Required

**EMET 242 Building Automation 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of EMET 241. Topics include: control methods, HVAC scheduling, alarm categories and data logs, control of building HVAC mechanical systems, network fundamentals, OSI model, IP protocol, network signal transmission and protocols, and controller programming.

Prerequisites: EMET 241

**EMET 245 Laser 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the operational theory and safe use of lasers. Topics include: properties of laser light, elements of the laser, laser classifications, structure of the eye, and hazards associated with laser light.

Prerequisites: EMET 150 (minimum grade C) and MAT 124 (minimum grade C) or appropriate placement

**EMET 246 Laser 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of EMET 245, covering optical elements and types of industrial lasers used in photonics applications. Topics include: lenses, mirrors, prisms, laser modulators and Q-switches, optical power, energy measurements, and applying lasers for advanced manufacturing.

Prerequisites: EMET 245 (minimum grade C)

**EMET 252 Motors, Motor Controls, and Variable Drives****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on DC and AC motors and motor control circuits and devices including the Variable Frequency Drive (VFD). Topics include: brushed and brushless motors and generators, Pulse Width Modulation (PWM), variable speed drives, speed/torque/power characteristics, industrial control circuits, electrical safety, and troubleshooting.

Prerequisites: EET 132 and EMET 141 and EMET 150 (minimum grade C for all)

**EMET 270 Robotics and Servomechanisms****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on theory and applications of robotics and servomechanisms. Topics include: analyzing industrial robotics applications in automated manufacturing environments; programming and operating robots; transducers; proportional, proportional-integral, and proportional-integral-derivative positional control systems; and closed-loop controls.

Prerequisites: EET 132 (minimum grade C)

**EMET 275 Electric Drive Mechanisms****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on electric drive systems used in electric vehicles and stationary power systems. Topics include: power and energy measurement, energy storage, battery monitoring, motor drives, control electronics and instrumentation, power transmission, and electrical safety devices.

Prerequisites: EMET 180 and EMET 252 (minimum grade C for both)

**EMET 291 Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EMET 292 Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 291

**EMET 293 Full-Time Cooperative Education 3: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 292

**EMET 294 Internship 1: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 140

**EMET 295 Internship 2: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 294

# Electro-Mechanical Engineering Technology - Building Automation Systems Certificate (BASC)

## Electro-Mechanical Engineering Technology - Building Automation Systems Certificate (BASC)

The Electro-Mechanical Engineering Technology – Building Automation Systems Certificate prepares students to enter careers or advance professionally in positions related to current building automation controls.

Students work with control technologies that provide data-driven, technology-enabled services to help create high performance buildings offering reduced costs, better indoor environments, and smaller environmental footprints.

The Building Automation Systems Certificate is for professionals and students who are enrolled in or have graduated with an associate's degree or bachelor's degree in Electro-Mechanical, Electrical, or similarly-titled Engineering Technology programs.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Electro-Mechanical Engineering Technology - Building Automation Systems Certificate (BASC)

Semester 1		Lec	Lat	Credits
EMET 210	Energy Efficiency and Audits	2	2	3
EMET 141	Programmable Logic Controllers	2	3	3
Semester 2		Lec	Lat	Credits
EMET 241	Building Automation 1	2	3	3
EMET 242	Building Automation 2	3	3	4
EMET 252	Motors, Motor Controls, and Variable Drives	2	3	3
Total Credits:		11	14	16

### Faculty

#### Program Chair

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#### Advisors

Wendy Steinberg, MS  
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Carole Womeldorf, PhD  
carole.womeldorf@cincinnati.edu

### Courses

#### EMET 110 Computer Aided Design for Electro-Mechanical Systems

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of computer-aided drafting (CAD) and design for electro-mechanical systems, including techniques for generating accurate engineering drawings and 3D models.

Prerequisites: MAT 096 or MAT 124, or appropriate placement

#### EMET 115 Residential Lighting

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of residential lighting. Topics include: safe use of tooling and ladders, removing and installing lamps, identifying commonly-used light fixtures and bulb types, and technician professional demeanor.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

#### EMET 120 Residential Weatherization

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts related to the building "envelope," or the structure and shell of a house. Topics include: insulation, windows and doors, HVAC systems, energy use of lighting and appliances, and weatherization terminology.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

#### EMET 125 Commercial Lighting

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of commercial lighting. Topics include: safe use of tooling, ladders, and lifts; removing and installing lamps for existing light fixtures (but not replacing the light fixture or ballast); auditing lamps; identifying light fixtures; removing fixture covers; and replacing lamps.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

#### EMET 141 Programmable Logic Controllers

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of using programmable logic controllers (PLC). Topics include: PLC applications, ladder logic programming, processor selection and configuration, digital and analog input and output wiring, and human-machine interface (HMI) concepts.

Prerequisites: EET 131 and EMET 150 and MAT 125 or appropriate placement (minimum grade C for all)

#### EMET 150 Introduction to Controls and Robotics

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on operation and use of robots in manufacturing applications. Topics include: programmable robotics, flow charting, logic controllers, motors, control language, motion, and quality assurance.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

#### EMET 180 Process Instrumentation

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on process instrumentation theory and applications. Topics include: principles and practices of measurement and control of temperature, pressure, flow, level, and analytical quantities; and data acquisition for process instruments and controls.

Prerequisites: EMET 150 and EET 131 (minimum grade C for both)

**EMET 191 Part-Time Cooperative Education 1: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EMET 192 Part-Time Cooperative Education 2: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 191

**EMET 193 Part-Time Cooperative Education 3: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 192

**EMET 194 Part-Time Cooperative Education 4: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 193

**EMET 195 Part-Time Cooperative Education 5: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 194

**EMET 196 Part-Time Cooperative Education 6: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 195

**EMET 210 Energy Efficiency and Audits****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts related to energy consumption. Topics include: conducting energy audits for residential, commercial, and industrial locations; conserving energy; reducing energy consumption; and applying renewable energies.

Prerequisites: None

**EMET 225 Solar and Renewable Energy****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on planning, installing, and maintaining solar and renewable energy devices. Topics include: photovoltaic electrical systems, solar thermal systems, fuel cell technology, and wind turbine technology.

Prerequisites: EMET 210 (minimum grade C)

**EMET 230 Fuel Cells and Wind Devices****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on planning, installing, and maintaining alternative energy sources. Topics include: converting chemical energy to electricity; fuel cell components, power efficiencies, and applications; electrolysis; and wind turbine components.

Prerequisites: EMET 210

**EMET 240 Programmable Logic Controllers, Motors, Motor Controls, and Kinematics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on programmable logic controllers, motors, and variable speed drives and mechanisms. Topics include: operating, troubleshooting, and controlling circuits; calculating speed, torque, horsepower, and efficiency; and machine kinematics.

Prerequisites: EET 132 (minimum grade C)

**EMET 241 Building Automation 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of building automation systems and commercial HVAC/R systems. Topics include: system components, building automation and control theory, psychometrics, air and water systems, boilers, chillers, lighting, thermostats, pumps, PLC, and motor controls.

Prerequisites: EET 132

Corequisites: EMET 240

Instructor Consent Required

**EMET 242 Building Automation 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of EMET 241. Topics include: control methods, HVAC scheduling, alarm categories and data logs, control of building HVAC mechanical systems, network fundamentals, OSI model, IP protocol, network signal transmission and protocols, and controller programming.

Prerequisites: EMET 241

**EMET 245 Laser 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the operational theory and safe use of lasers. Topics include: properties of laser light, elements of the laser, laser classifications, structure of the eye, and hazards associated with laser light.

Prerequisites: EMET 150 (minimum grade C) and MAT 124 (minimum grade C) or appropriate placement

**EMET 246 Laser 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of EMET 245, covering optical elements and types of industrial lasers used in photonics applications. Topics include: lenses, mirrors, prisms, laser modulators and Q-switches, optical power, energy measurements, and applying lasers for advanced manufacturing.

Prerequisites: EMET 245 (minimum grade C)

**EMET 252 Motors, Motor Controls, and Variable Drives****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on DC and AC motors and motor control circuits and devices including the Variable Frequency Drive (VFD). Topics include: brushed and brushless motors and generators, Pulse Width Modulation (PWM), variable speed drives, speed/torque/power characteristics, industrial control circuits, electrical safety, and troubleshooting.

Prerequisites: EET 132 and EMET 141 and EMET 150 (minimum grade C for all)

**EMET 270 Robotics and Servomechanisms****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on theory and applications of robotics and servomechanisms. Topics include: analyzing industrial robotics applications in automated manufacturing environments; programming and operating robots; transducers; proportional, proportional-integral, and proportional-integral-derivative positional control systems; and closed-loop controls.

Prerequisites: EET 132 (minimum grade C)

**EMET 275 Electric Drive Mechanisms****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on electric drive systems used in electric vehicles and stationary power systems. Topics include: power and energy measurement, energy storage, battery monitoring, motor drives, control electronics and instrumentation, power transmission, and electrical safety devices.

Prerequisites: EMET 180 and EMET 252 (minimum grade C for both)

**EMET 291 Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EMET 292 Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 291

**EMET 293 Full-Time Cooperative Education 3: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 292

**EMET 294 Internship 1: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 140

**EMET 295 Internship 2: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 294

## Electro-Mechanical Engineering Technology - Energy Major (EMETE)

### Electro-Mechanical Engineering Technology - Energy Major (EMETE)

Graduates of the program Electro-Mechanical Engineering Technology - Energy Major are prepared to address the needs of several related and growing industries related to energy efficiency and reduction of energy use in commercial and industrial applications.

Students work with building automation control technologies that provide data-driven services to help create high performance buildings with reduced costs, better indoor environments, and smaller environmental footprints.

Students also complete foundation studies in traditional electro-mechanical engineering technology.

Program graduates earn an Associate of Applied Science degree and are also prepared to pursue a bachelor's degree in fields such as electro-mechanical engineering technologies or electronics engineering technologies.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Electro-Mechanical Engineering Technology—Energy Major (EMETE)

Semester 1		Lec	Lat	Credits
EMET 150	Introduction to Controls and Robotics ( B )	1	2	2
CIT 105	OSHA 10 General Industry Safety ( B )	1	0	1
EET 131	Circuit Analysis 1 ( B )	3	2	4

FYE 1XX First Year Experience Elective (B)		1	0	1
EMET 110 Computer Aided Design for Electro-Mechanical Systems ( B)		2	3	3
MAT XXX Mathematics Elective 1 (G)		3	2	4
<b>Semester 2</b>				
EMET 180 Process Instrumentation ( T)		2	3	3
EET 132 Circuit Analysis 2 ( T)		3	2	4
ENG 101 English Composition 1 ( G)		3	0	3
MAT XXX Mathematics Elective 2 (B)		3	2	4
EMET 141 Programmable Logic Controllers ( T)		2	3	3
<b>Semester 3</b>				
XXX XXX Cooperative Education or Transfer Elective 1 (T)		1	40	2
<b>Semester 4</b>				
EMET 210 Energy Efficiency and Audits ( T)		2	2	3
ENG 10X English Composition Elective (G)		3	0	3
EMET 252 Motors, Motor Controls, and Variable Drives ( T)		2	3	3
EMET 241 Building Automation 1 ( T)		2	3	3
PHY XXX Physics Elective (G)		3	2	4
<b>Semester 5</b>				
EMET 225 Solar and Renewable Energy ( T)		2	3	3
EMET 242 Building Automation 2 ( T)		3	3	4
XXX XXX Arts/ Humanities or Social/ Behavioral Science Elective (G)		3	0	3
MET XXX Elective (T)		2	3	3
<b>Semester 6</b>				
XXX XXX Cooperative Education or Transfer Elective 2 (T)		1	40	2
Total Credits:		48	118	65

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Mathematics Electives

Select one of the following series:

MAT 125 Algebra and Trigonometry  
& MAT 126 and Functions and Calculus

Or

MAT 251 Calculus 1  
& MAT 252 and Calculus 2

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 104	English Composition 2: Technical Communication	3

### Physics Elective

PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5

### Arts/Humanities or Social/Behavioral Science Elective (select one course)

Any ECO, GEO, HST, LBR, LIT, PHI		3
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### MET Electives

MET 111	Manufacturing Processes 1	3
MET 150	Statics and Strength of Materials for MET	3

### Cooperative Education or Transfer Electives \*

EMET 291	Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology	2
EMET 292	Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology	2
EET 121	Digital Systems 1	3
ESET 251	Electronics	4
MET 140	Engineering Materials	3
CIT 250	Engineering Community	2

\* Program Chair approval is required for students planning to take a Transfer Elective course rather than participate in cooperative education.

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Electro-Mechanical Engineering Technologies (EMET, EMETE, EMETL)

- Demonstrate ability to communicate as an individual, as well as function effectively on teams by applying oral and written skills.
- Demonstrate knowledge of the importance of quality, timeliness, and continuous improvement.
- Demonstrate appropriate mastery of circuit analysis.
- Demonstrate appropriate mastery of CAD.
- Demonstrate ability to identify, analyze, and creatively solve technical and design problems.
- Demonstrate ability to apply fundamental knowledge to conduct experiments, analyze data, interpret data, and apply results to improve processes.
- Demonstrate appropriate mastery of programmable controllers and motor control systems.
- Demonstrate appropriate mastery of programming robots.
- Complete and pass an OSHA 10 General Industry course.

## Faculty

### Program Chair/Advisor

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### Co-op Coordinator

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### Advisors

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Carole Womeldorf, PhD  
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## Courses

### EMET 110 Computer Aided Design for Electro-Mechanical Systems

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of computer-aided drafting (CAD) and design for electro-mechanical systems, including techniques for generating accurate engineering drawings and 3D models.

Prerequisites: MAT 096 or MAT 124, or appropriate placement

### EMET 115 Residential Lighting

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of residential lighting. Topics include: safe use of tooling and ladders, removing and installing lamps, identifying commonly-used light fixtures and bulb types, and technician professional demeanor.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

### EMET 120 Residential Weatherization

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts related to the building "envelope," or the structure and shell of a house. Topics include: insulation, windows and doors, HVAC systems, energy use of lighting and appliances, and weatherization terminology.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

### EMET 125 Commercial Lighting

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of commercial lighting. Topics include: safe use of tooling, ladders, and lifts; removing and installing lamps for existing light fixtures (but not replacing the light fixture or ballast); auditing lamps; identifying light fixtures; removing fixture covers; and replacing lamps.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

### EMET 141 Programmable Logic Controllers

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of using programmable logic controllers (PLC). Topics include: PLC applications, ladder logic programming, processor selection and configuration, digital and analog input and output wiring, and human-machine interface (HMI) concepts.

Prerequisites: EET 131 and EMET 150 and MAT 125 or appropriate placement (minimum grade C for all)

### EMET 150 Introduction to Controls and Robotics

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on operation and use of robots in manufacturing applications. Topics include: programmable robotics, flow charting, logic controllers, motors, control language, motion, and quality assurance.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

### EMET 180 Process Instrumentation

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on process instrumentation theory and applications. Topics include: principles and practices of measurement and control of temperature, pressure, flow, level, and analytical quantities; and data acquisition for process instruments and controls.

Prerequisites: EMET 150 and EET 131 (minimum grade C for both)

### EMET 191 Part-Time Cooperative Education 1: Electro-Mechanical Engineering Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### EMET 192 Part-Time Cooperative Education 2: Electro-Mechanical Engineering Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 191



**EMET 193 Part-Time Cooperative Education 3: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 192

**EMET 194 Part-Time Cooperative Education 4: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 193

**EMET 195 Part-Time Cooperative Education 5: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 194

**EMET 196 Part-Time Cooperative Education 6: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 195

**EMET 210 Energy Efficiency and Audits****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts related to energy consumption. Topics include: conducting energy audits for residential, commercial, and industrial locations; conserving energy; reducing energy consumption; and applying renewable energies.

Prerequisites: None

**EMET 225 Solar and Renewable Energy****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on planning, installing, and maintaining solar and renewable energy devices. Topics include: photovoltaic electrical systems, solar thermal systems, fuel cell technology, and wind turbine technology.

Prerequisites: EMET 210 (minimum grade C)

**EMET 230 Fuel Cells and Wind Devices****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on planning, installing, and maintaining alternative energy sources. Topics include: converting chemical energy to electricity; fuel cell components, power efficiencies, and applications; electrolysis; and wind turbine components.

Prerequisites: EMET 210

**EMET 240 Programmable Logic Controllers, Motors, Motor Controls, and Kinematics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on programmable logic controllers, motors, and variable speed drives and mechanisms. Topics include: operating, troubleshooting, and controlling circuits; calculating speed, torque, horsepower, and efficiency; and machine kinematics.

Prerequisites: EET 132 (minimum grade C)

**EMET 241 Building Automation 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of building automation systems and commercial HVAC/R systems. Topics include: system components, building automation and control theory, psychometrics, air and water systems, boilers, chillers, lighting, thermostats, pumps, PLC, and motor controls.

Prerequisites: EET 132

Corequisites: EMET 240

Instructor Consent Required

**EMET 242 Building Automation 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of EMET 241. Topics include: control methods, HVAC scheduling, alarm categories and data logs, control of building HVAC mechanical systems, network fundamentals, OSI model, IP protocol, network signal transmission and protocols, and controller programming.

Prerequisites: EMET 241

**EMET 245 Laser 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the operational theory and safe use of lasers. Topics include: properties of laser light, elements of the laser, laser classifications, structure of the eye, and hazards associated with laser light.

Prerequisites: EMET 150 (minimum grade C) and MAT 124 (minimum grade C) or appropriate placement

**EMET 246 Laser 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of EMET 245, covering optical elements and types of industrial lasers used in photonics applications. Topics include: lenses, mirrors, prisms, laser modulators and Q-switches, optical power, energy measurements, and applying lasers for advanced manufacturing.

Prerequisites: EMET 245 (minimum grade C)

**EMET 252 Motors, Motor Controls, and Variable Drives****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on DC and AC motors and motor control circuits and devices including the Variable Frequency Drive (VFD). Topics include: brushed and brushless motors and generators, Pulse Width Modulation (PWM), variable speed drives, speed/torque/power characteristics, industrial control circuits, electrical safety, and troubleshooting.

Prerequisites: EET 132 and EMET 141 and EMET 150 (minimum grade C for all)

**EMET 270 Robotics and Servomechanisms****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on theory and applications of robotics and servomechanisms. Topics include: analyzing industrial robotics applications in automated manufacturing environments; programming and operating robots; transducers; proportional, proportional-integral, and proportional-integral-derivative positional control systems; and closed-loop controls.

Prerequisites: EET 132 (minimum grade C)

**EMET 275 Electric Drive Mechanisms****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on electric drive systems used in electric vehicles and stationary power systems. Topics include: power and energy measurement, energy storage, battery monitoring, motor drives, control electronics and instrumentation, power transmission, and electrical safety devices.

Prerequisites: EMET 180 and EMET 252 (minimum grade C for both)

**EMET 291 Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EMET 292 Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 291

**EMET 293 Full-Time Cooperative Education 3: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 292

**EMET 294 Internship 1: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 140

**EMET 295 Internship 2: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 294

## Electro-Mechanical Engineering Technology - Laser Major and Laser Certificate (EMETL, EMETLC)

### Electro-Mechanical Engineering Technology—Laser Major (EMETL)

Graduates of the Electro-Mechanical Engineering Technology - Laser Major are prepared to successfully begin careers and advance professionally in local and national industries that utilize lasers and electro-optics systems, or use industrial equipment in automated manufacturing and research environments.

Students work with laser material processing systems, and operate and troubleshoot optical systems including lasers, lens systems, and fiber optics.

Graduates earn an Associate of Applied Science degree and are also prepared to pursue a bachelor's degree in fields such as electro-mechanical engineering or electrical engineering.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Electro-Mechanical Engineering Technology—Laser Certificate (EMETLC)

The Electro-Mechanical Engineering Technology – Laser Certificate prepares students to enter careers and advance professionally in local and national industries that utilize laser and electro-optics systems. Students work with laser material processing systems, and operate and troubleshoot optical systems including laser, lens systems, and fiber optics.

Graduates of the certificate program receive OSHA 10 Electrical Safe Practices certification and are prepared for Laser Safety Officer training based on ANSI 36 standards, OSHA guidelines, and the FDA Center for Devices and Radiological Health (CDRH).

The Laser Certificate is for professionals and students enrolled in or who have graduated from an associate's degree or bachelor's degree program in Electro-Mechanical, Electrical, or similarly-titled Engineering Technology programs.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Electro-Mechanical Engineering Technology—Laser Major (EMETL)

Semester 1		Lec	Lat	Credits
EMET 150	Introduction to Controls and Robotics ( <b>B</b> )	1	2	2
CIT 105	OSHA 10 General Industry Safety ( <b>B</b> )	1	0	1
EET 131	Circuit Analysis 1 ( <b>T</b> )	3	2	4
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
EMET 110	Computer Aided Design for Electro-Mechanical Systems ( <b>B</b> )	2	3	3
MAT XXX	Mathematics Elective 1 ( <b>G</b> )	3	2	4
Semester 2				
EMET 180	Process Instrumentation ( <b>T</b> )	2	3	3
EET 132	Circuit Analysis 2 ( <b>T</b> )	3	2	4
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
MAT XXX	Mathematics Elective 2 ( <b>B</b> )	3	2	4
EMET 141	Programmable Logic Controllers ( <b>T</b> )	2	3	3
Semester 3				
XXX XXX	Cooperative Education or Transfer Elective 1 ( <b>T</b> )	1	40	2
MET 150	Statics and Strength of Materials for MET ( <b>B</b> )	2	3	3
Semester 4				
EMET 245	Laser 1 ( <b>T</b> )	2	3	3
EMET 252	Motors, Motor Controls, and Variable Drives ( <b>T</b> )	2	3	3
PHY XXX	Physics Elective ( <b>G</b> )	3	2	4
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
Semester 5				
EMET 246	Laser 2 ( <b>T</b> )	2	3	3
EMET 270	Robotics and Servomechanisms ( <b>T</b> )	2	3	3
EMET 275	Electric Drive Mechanisms ( <b>T</b> )	3	3	4

XXX XXX	Arts/ Humanities or Social/ Behavioral Science Elective ( <b>G</b> )	3	0	3
Semester 6				
XXX XXX	Cooperative Education or Transfer Elective 2 ( <b>T</b> )	1	40	2
Total Credits:		48	119	65

### Electives

#### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

#### Mathematics Electives

Select one of the following series:

MAT 125 Algebra and Trigonometry  
& MAT 126 and Functions and Calculus

Or

MAT 251 Calculus 1  
& MAT 252 and Calculus 2

#### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 104	English Composition 2: Technical Communication	3

#### Physics Elective

PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5

#### Arts/Humanities or Social/Behavioral Science Elective

Any ECO, GEO, HST, LBR, LIT, PHI

#### Cooperative Education or Transfer Electives \*

EMET 291	Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology	2
EMET 292	Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology	2
EET 121	Digital Systems 1	3
ESET 251	Electronics	4
MET 140	Engineering Materials	3
CIT 250	Engineering Community	2

\* Program Chair approval is required for students planning to take a Transfer Elective course rather than participate in cooperative education.

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.

- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Electro-Mechanical Engineering Technology - Laser Certificate (EMETLC)

Semester 1		Lec	Lat	Credits
EMET 245	Laser 1	2	3	3
CIT 105	OSHA 10 General Industry Safety	1	0	1
Semester 2		Lec	Lat	Credits
EMET 246	Laser 2	3	3	4
Total Credits:		6	6	8

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Electro-Mechanical Engineering Technologies (EMET, EMETE, EMETL)

- Demonstrate ability to communicate as an individual, as well as function effectively on teams by applying oral and written skills.
- Demonstrate knowledge of the importance of quality, timeliness, and continuous improvement.
- Demonstrate appropriate mastery of circuit analysis.
- Demonstrate appropriate mastery of CAD.
- Demonstrate ability to identify, analyze, and creatively solve technical and design problems.
- Demonstrate ability to apply fundamental knowledge to conduct experiments, analyze data, interpret data, and apply results to improve processes.
- Demonstrate appropriate mastery of programmable controllers and motor control systems.
- Demonstrate appropriate mastery of programming robots.
- Complete and pass an OSHA 10 General Industry course.

## Faculty

### Program Chair/Advisor

Lawrence (Larry) Feist, BS  
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### Co-op Coordinator

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## Advisors

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wendy.steinberg@cincinnatiastate.edu

Carole Womeldorf, PhD  
carole.womeldorf@cincinnatiastate.edu

## Courses

### EMET 110 Computer Aided Design for Electro-Mechanical Systems

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of computer-aided drafting (CAD) and design for electro-mechanical systems, including techniques for generating accurate engineering drawings and 3D models.

Prerequisites: MAT 096 or MAT 124, or appropriate placement

### EMET 115 Residential Lighting

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of residential lighting. Topics include: safe use of tooling and ladders, removing and installing lamps, identifying commonly-used light fixtures and bulb types, and technician professional demeanor.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

### EMET 120 Residential Weatherization

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts related to the building "envelope," or the structure and shell of a house. Topics include: insulation, windows and doors, HVAC systems, energy use of lighting and appliances, and weatherization terminology.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

### EMET 125 Commercial Lighting

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of commercial lighting. Topics include: safe use of tooling, ladders, and lifts; removing and installing lamps for existing light fixtures (but not replacing the light fixture or ballast); auditing lamps; identifying light fixtures; removing fixture covers; and replacing lamps.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

### EMET 141 Programmable Logic Controllers

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of using programmable logic controllers (PLC). Topics include: PLC applications, ladder logic programming, processor selection and configuration, digital and analog input and output wiring, and human-machine interface (HMI) concepts.

Prerequisites: EET 131 and EMET 150 and MAT 125 or appropriate placement (minimum grade C for all)

### EMET 150 Introduction to Controls and Robotics

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on operation and use of robots in manufacturing applications. Topics include: programmable robotics, flow charting, logic controllers, motors, control language, motion, and quality assurance.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

**EMET 180 Process Instrumentation****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on process instrumentation theory and applications. Topics include: principles and practices of measurement and control of temperature, pressure, flow, level, and analytical quantities; and data acquisition for process instruments and controls.

Prerequisites: EMET 150 and EET 131 (minimum grade C for both)

**EMET 191 Part-Time Cooperative Education 1: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EMET 192 Part-Time Cooperative Education 2: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 191

**EMET 193 Part-Time Cooperative Education 3: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 192

**EMET 194 Part-Time Cooperative Education 4: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 193

**EMET 195 Part-Time Cooperative Education 5: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 194

**EMET 196 Part-Time Cooperative Education 6: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 195

**EMET 210 Energy Efficiency and Audits****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts related to energy consumption. Topics include: conducting energy audits for residential, commercial, and industrial locations; conserving energy; reducing energy consumption; and applying renewable energies.

Prerequisites: None

**EMET 225 Solar and Renewable Energy****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on planning, installing, and maintaining solar and renewable energy devices. Topics include: photovoltaic electrical systems, solar thermal systems, fuel cell technology, and wind turbine technology.

Prerequisites: EMET 210 (minimum grade C)

**EMET 230 Fuel Cells and Wind Devices****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on planning, installing, and maintaining alternative energy sources. Topics include: converting chemical energy to electricity; fuel cell components, power efficiencies, and applications; electrolysis; and wind turbine components.

Prerequisites: EMET 210

**EMET 240 Programmable Logic Controllers, Motors, Motor Controls, and Kinematics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on programmable logic controllers, motors, and variable speed drives and mechanisms. Topics include: operating, troubleshooting, and controlling circuits; calculating speed, torque, horsepower, and efficiency; and machine kinematics.

Prerequisites: EET 132 (minimum grade C)

**EMET 241 Building Automation 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of building automation systems and commercial HVAC/R systems. Topics include: system components, building automation and control theory, psychometrics, air and water systems, boilers, chillers, lighting, thermostats, pumps, PLC, and motor controls.

Prerequisites: EET 132

Corequisites: EMET 240

Instructor Consent Required

**EMET 242 Building Automation 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of EMET 241. Topics include: control methods, HVAC scheduling, alarm categories and data logs, control of building HVAC mechanical systems, network fundamentals, OSI model, IP protocol, network signal transmission and protocols, and controller programming.

Prerequisites: EMET 241

**EMET 245 Laser 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the operational theory and safe use of lasers. Topics include: properties of laser light, elements of the laser, laser classifications, structure of the eye, and hazards associated with laser light.

Prerequisites: EMET 150 (minimum grade C) and MAT 124 (minimum grade C) or appropriate placement

**EMET 246 Laser 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of EMET 245, covering optical elements and types of industrial lasers used in photonics applications. Topics include: lenses, mirrors, prisms, laser modulators and Q-switches, optical power, energy measurements, and applying lasers for advanced manufacturing.

Prerequisites: EMET 245 (minimum grade C)

**EMET 252 Motors, Motor Controls, and Variable Drives****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on DC and AC motors and motor control circuits and devices including the Variable Frequency Drive (VFD). Topics include: brushed and brushless motors and generators, Pulse Width Modulation (PWM), variable speed drives, speed/torque/power characteristics, industrial control circuits, electrical safety, and troubleshooting.

Prerequisites: EET 132 and EMET 141 and EMET 150 (minimum grade C for all)

**EMET 270 Robotics and Servomechanisms****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on theory and applications of robotics and servomechanisms. Topics include: analyzing industrial robotics applications in automated manufacturing environments; programming and operating robots; transducers; proportional, proportional-integral, and proportional-integral-derivative positional control systems; and closed-loop controls.

Prerequisites: EET 132 (minimum grade C)

**EMET 275 Electric Drive Mechanisms****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on electric drive systems used in electric vehicles and stationary power systems. Topics include: power and energy measurement, energy storage, battery monitoring, motor drives, control electronics and instrumentation, power transmission, and electrical safety devices.

Prerequisites: EMET 180 and EMET 252 (minimum grade C for both)

**EMET 291 Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EMET 292 Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 291

**EMET 293 Full-Time Cooperative Education 3: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 292

**EMET 294 Internship 1: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 140

**EMET 295 Internship 2: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 294

## Engineering Technology Transfer Certificate (ETTC)

### Engineering Technology Transfer Certificate (ETTC)

**Note: As of June 1, 2020, this certificate is not eligible for financial aid. For the most recent information, contact the Office of Financial Aid.**

The Engineering Technology Transfer Certificate is designed for students who plan to transfer to a bachelor's degree program in an engineering technology field.

Students seeking this certificate must also be enrolled in (or previously completed) an Associate of Applied Science (AAS) degree in an engineering technology field such as Civil Engineering Technology, Electrical Engineering Technology, Electro-Mechanical Engineering Technology, Environmental Engineering Technology, or Mechanical Engineering Technology.

The coursework included in the certificate supplements coursework required for the AAS degree and provides an additional year of transferable credit toward the bachelor's degree program of choice.

Students complete the Ohio Transfer Module as part of the Engineering Technology Transfer Certificate.

Certificate-seeking students work closely with their academic advisor to ensure that courses selected align with the requirements of the institution where the student plans to earn a bachelor's degree.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Engineering Technology Transfer Certificate (ETTC)

### First Year

#### Semester 1

		Lec	Lat	Credits
MAT 251	Calculus 1	5	0	5
IT 101	Programming 1	2	3	3
ENG 104	English Composition 2: Technical Communication	3	0	3

XXX XXX	Technical Elective 1	2	3	3
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#### Semester 2

MAT 252	Calculus 2	5	0	5
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XXX XXX	Social/ Behavioral Science Transfer Module Elective 1	3	0	3
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XXX XXX	Technical Elective 2	2	3	3
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XXX XXX	Arts/ Humanities Transfer Module Elective 1	3	0	3
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XXX XXX	Social/ Behavioral Science Elective 2	3	0	3
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#### Semester 3

PHY 152	Physics 2: Algebra and Trigonometry-Based	3	3	4
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XXX XXX	Social/ Behavioral Science Elective 2	3	0	3
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XXX XXX	Arts/ Humanities Transfer Module Elective 2	3	0	3
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XXX XXX	Technical Elective 3	3	0	3
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#### Semester 4

CHE 110	Fundamentals of Chemistry	3	3	4
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COMM 110	Public Speaking	3	0	3
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XXX XXX	Technical Elective 3	3	0	3
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Total Credits:		43	15	48
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## Electives

### Arts/Humanities Electives (select 2 courses)

Any Transfer Module courses from ART, MUS, THE or COMM 130

### Social /Behavioral Science Electives (select 2 courses)

Any Transfer Module courses from SOC, PSY, HST, LBR, ECO

### Technical Electives \*

EMET 245	Laser 1	3
EMET 270	Robotics and Servomechanisms	4
EMET 275	Electric Drive Mechanisms	4
EET 121	Digital Systems 1	3
ESET 220	Microprocessor Systems	4
ESET 251	Electronics	4
EVS 120	Environmental Geology	4
IT 102	Programming 2	3
IT 161	Java Programming 1	3
MET 131	MET Computer Aided Drafting 1	3
MET 140	Engineering Materials	3
NETC 121	Network Communications 1	3
NETC 122	Network Communications 2	3
PSET 140	Power Systems Foundations	3
EET 131	Circuit Analysis 1	4
EMET 180	Process Instrumentation	3
CIT 130	Engineering Programming with MATLAB	3

\* Student should meet with an advisor before choosing electives

## Faculty

### Program Chair/Advisor

Lawrence (Larry) Feist, BS  
lawrence.feist@cincinnati.edu

## Land Surveying Bachelor's Degree (LS.BAS)

### Land Surveying Bachelor's Degree (LS.BAS)

The Bachelor of Applied Science degree in Land Surveying prepares students for work as professional surveyors, and meets the educational requirements for surveyors.

Graduates also are prepared to take NCEES exams (National Council of Examiners for Engineering and Surveying) that are required to obtain professional licensure in land surveying.

Bachelor's degree coursework includes fundamental principles of civil engineering, construction, and site design, as well as skills required to operate state-of-the-art surveying equipment and computer software.

In addition, students gain knowledge of boundary resolution, subdivision design, geographic information systems (GIS), and global positioning systems (GPS).

Students participate in experiential learning through cooperative education in each year of the bachelor's degree program.

A surveyor enjoys diverse job responsibilities. Many surveyors work outside for surveying firms collecting data, establishing control points, and determining boundary locations. Others work inside at a surveying firm, a civil engineering office, or in an architecture firm, helping with site design activities and developing plans while using the field data.

Surveyors may work on their own or with firms specializing in construction, architecture, or engineering. Surveyors also work in private industry or work for the public with responsibilities including planning and zoning, transportation, land development, forensics, boundary control, geomatics, or law.

Graduates of the bachelor's degree program have the knowledge and skills needed to establish their own company or work for a larger firm as a land surveying technician, professional land surveyor, or survey director.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Land Surveying (LS)

### First Year

		Lec	Lat	Credits
<b>Semester 1</b>				
FYE 1XX		1	0	1
First Year Experience Elective (B)				
MAT 151	College Algebra	4	0	4
SUR 100	Introduction to Land Surveying	2	2	3
CET 115	Architectural Drafting and Computer Aided Design	2	4	4
CET 105	Introduction to Surveying	2	3	3
<b>Semester 2</b>				
MAT 152	Trigonometry	4	0	4
SUR 120	Computer Aided Design, Civil 3D, and Surveying Software	2	4	4
CET 110	Advanced Surveying and Construction Layout	2	3	3
CET 266	Surveying History in Ohio, Kentucky, and Indiana	4	0	4
<b>Semester 3</b>				
ENG 101	English Composition 1	3	0	3
CET 291	Full-Time Cooperative Education 1: Civil Engineering Technology	1	40	2

### Second Year

		Lec	Lat	Credits
<b>Semester 1</b>				
PHY 151	Physics 1: Algebra and Trigonometry-Based	3	2	4
SUR 221	Dendrology 1	1	1	2
CET 250	Route Location and Design	3	2	4
CET 251	Elements of Land Surveying 1	3	2	4
CET 255	Land Information Modeling	2	3	3
<b>Semester 2</b>				

ENG 10X	English Composition Elective	3	0	3
ECO 110	Principles of Macroeconomics	3	0	3
COMM 110	Public Speaking	3	0	3
SUR 222	Dendrology 2	0	2	1
CET 252	Elements of Land Surveying 2	3	3	4

### Semester 3

CET 292	Full-Time Cooperative Education 2: Civil Engineering Technology	1	40	2
CET 260	Control Surveying	3	3	4

### Third Year

#### Semester 1

XXX XXX	Social/Behavioral Science Elective	3	0	3
XXX XXX	Arts/Humanities Elective 1	3	0	3
MAT XXX	Mathematics Elective	2	2	3
CET 277	Survey Calculations and Statistics	4	0	4

#### Semester 2

PHY 152	Physics 2: Algebra and Trigonometry-Based	3	2	4
XXX XXX	Arts/Humanities Elective 2	3	0	3
CET 267	Surveying Laws and Ethics	4	0	4
CET 287	Geospatial Surveying	4	0	4

#### Semester 3

SUR 491	Full-Time Cooperative Education 3: Land Surveying	1	40	2
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### Fourth Year

#### Semester 1

SUR 420	Photogrammetry and Remote Sensing	2	3	3
EVS 120	Environmental Geology	3	2	4
MKT 101	Principles of Marketing	3	0	3
MGT 120	Entrepreneurship	3	0	3

#### Semester 2

XXX XXX	Science Elective	3	2	4
CET 265	Subdivision Design and Drainage Control	3	3	4
CET 290	Civil Engineering Technology Surveying Capstone	1	6	3

Total Credits:		100	174	126
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## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Mathematics Elective

MAT 131	Statistics 1	3
MAT 251	Calculus 1	5

### Social/Behavioral Science Elective (select 1 course)

ECO 105	Principles of Microeconomics	3
GEO 105	World Regional Geography: the Americas, Europe, and Australia	3
GEO 110	World Regional Geography: Asia, Africa, and the Middle East	3
GEO 115	Cultural Geography	3
HST 101	World History: First Civilizations to 1500	3
HST 102	World History: 1500 to Present	3
HST 111	American History: Early Settlers to 1877	3
HST 112	American History: 1877 to Present	3
HST 121	African American History: Origins to 1877	3
HST 122	African American History: 1877 to Present	3
HST 130	History of Africa	3
LBR 105	Introduction to Labor and Employee Relations	3
POL 101	Introduction to American Government	3
POL 102	Introduction to Comparative Governments and Politics	3
PSY 110	Introduction to Psychology	3
PSY 200	Abnormal Psychology	3
PSY 205	Child Development	3
PSY 210	Adolescent Development	3
PSY 215	Adult Development	3
PSY 220	Social Psychology	3
PSY 225	Lifespan Development	3
SOC 105	Introduction to Sociology	3
SOC 115	Marriage and the Family	3
SOC 130	Sociology of Aging	3
SOC 140	Sociology of Gender	3

### Arts/Humanities Electives (select 2 courses)

ART 110	Introduction to Art	3
ART 111	Art History: Ancient to Medieval Periods	3
ART 112	Art History: Renaissance to the Present	3
COMM 130	Introduction to Film Studies	3
LIT 200	Introduction to Literature	3
LIT 210	The Short Story	3
LIT 220	Poetry	3
LIT 230	Drama	3
LIT 240	The Novel	3

LIT 251	American Literature to 1865	3
LIT 252	American Literature since 1865	3
LIT 255	African American Literature	3
LIT 261	British Literature: Medieval Period to 1800	3
LIT 262	British Literature: 1800 to Present	3
LIT 265	Shakespeare	3
LIT 270	Children's Literature	3
LIT 280	Science Fiction	3
LIT 285	Women Writers	3
MUS 101	Music History: Middle Ages to Late 19th Century	3
MUS 102	Music History: 20th Century	3
MUS 105	Music History: African-American Music	3
MUS 110	Jazz Appreciation	3
MUS 115	Rock and Pop Music	3
MUS 120	World Music	3
PHI 105	Introduction to Philosophy	3
PHI 110	Ethics	3
REL 105	World Religions	3
THE 105	Theater Appreciation	3
THE 110	History of Theater	3
<b>Science Elective</b>		
BIO 131	Biology 1	5
CHE 121 & CHE 131	General Chemistry 1 and General Chemistry 1 Lab	5
PSC 105	Astronomy	4

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Land Surveying Bachelor's Degree (LS.BAS)

An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.

An ability to formulate or design a system, process, procedure, or program to meet desired needs.

An ability to develop and conduct experiments or test hypotheses; analyze and interpret data; and use scientific judgment to draw conclusions.

An ability to communicate effectively with a range of audiences.

An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.

An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

## Faculty

### Program Chair

Carol Morman, PE, PS, MS  
carol.morman@cincinnati.state.edu

### Co-op Coordinator

Doug Woodruff, MBA  
doug.woodruff@cincinnati.state.edu

## CET Courses

### **CET 100 Introduction to Civil Engineering Technology** **3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on foundation concepts in civil engineering technology. Topics include: CET program and curriculum, career preparation, licensing, ethics, diversity, and OSHA. Students use Microsoft Word, Excel, and Powerpoint to complete assignments.  
Prerequisites: None

### **CET 105 Introduction to Surveying** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on foundation concepts of land surveying and site planning. Topics include: angle, distance, and elevation measurement; contours; and mapping and site planning fundamentals. Students complete outdoor field exercises and manual drafting lab exercises.  
Prerequisites: MAT 121 or appropriate placement  
Ohio Transfer Assurance Guide Approved

### **CET 107 Construction Health and Safety** **4 Credits. 4 Lecture Hours. 0 Lab Hour.**

An introduction to construction safety. Topics include: risk management, safety hazards, the Code of Federal Regulations, and OSHA Construction Industry Standards outlined in Federal Code 29 CFR Part 1926. Students who complete the course successfully earn the OSHA 30-hour certificate.  
Prerequisites: None

### **CET 110 Advanced Surveying and Construction Layout** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course in land surveying and construction layout. Topics include: traverse calculations, coordinate geometry, and field construction layout with methods of providing line and grade for varied projects. Students complete outdoor field exercises and computer lab exercises.  
Prerequisites: CET 105

### **CET 115 Architectural Drafting and Computer Aided Design** **4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on applying architectural drafting techniques and computer aided design concepts. Topics include: building codes, building materials, and fundamentals of CAD software. Students prepare residential working drawings.  
Prerequisites: None

### **CET 117 Construction Risk Management and Insurance** **4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on insurance for the construction management process. Topics include: financial risk planning, risk management, insurance markets, property insurance, contractual risks and transfer, forms of liability insurance (commercial, employers, environmental, management, and professional), and workers' compensation.  
Prerequisites: None

### **CET 120 Advanced Computer Aided Design: Revit Architecture** **4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on CAD techniques that apply building information modeling using Revit Architecture. Topics include: layouts, dimensioning, blocks, and hatching.  
Prerequisites: CET 115

### **CET 125 Statics and Strength of Materials (CET)** **4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying physical principles to solve problems of equilibrium and behavior in civil engineering structures. Topics include: force resultants, equilibrium, truss analysis, direct stress, bending stress, beam behavior, and combined stress.  
Prerequisites: MAT 124 or appropriate placement

### **CET 127 Environmental and Legal Issues in Construction** **4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on environmental and legal issues affecting construction safety. Topics include: stormwater pollution prevention plans, asbestos abatement, disturbance and abatement of lead-containing materials, silica exposure, EPA regulations, multi-employer worksite rules, intentional torts, safety violations, and union contracts.  
Prerequisites: None

### **CET 130 Building Codes and Materials** **3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on building code requirements and their applications to designing and constructing building projects. Topics include: Ohio building, mechanical, electrical, and plumbing codes; and building materials used in construction such as steel, wood, masonry, and concrete.  
Prerequisites: CET 115

### **CET 133 Home Inspection - American Society of Home Inspectors** **5 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course that meets requirements for the American Society of Home Inspectors (ASHI) 120-hour home inspection course. Topics include: standards and reports, exterior cladding, exterior structures, roofing and foundations, interiors, electrical systems, heating, air conditioning, and plumbing. Students participate in field inspection lab activity and take a certification exam. A comprehensive final score of 70% is required to pass the course.  
Prerequisites: None

### **CET 135 Construction Estimating** **3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on quantifying various components of a commercial project using a complete set of working drawings and specifications. Topics include: blueprint reading, specification analysis, construction methods and materials, and proper estimating communication practices.  
Prerequisites: MAT 124 or appropriate placement

### **CET 137 Construction Safety Plan Management** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developing construction safety plans. Topics include: essential elements of a safety program; best practices, legal, and regulatory requirements related to safety planning; substance abuse programs; accident investigations; contractor management; and crisis management and planning.  
Prerequisites: None

**CET 147 Safety Training Workshops****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

Students participate in construction training workshops that provide fundamental instruction in safety methods and practices. Workshops must be approved by the program chair.

Prerequisites: Program Chair consent

**CET 150 Building Technology Studies: Advanced Standing****1-30 Credits. 0 Lecture Hour. 0 Lab Hour.**

Students complete courses or programs that develop expertise in skills related to the building trades.

Prerequisites: Program Chair consent

Instructor Consent Required

**CET 191 Part-Time Cooperative Education 1: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CET 192 Part-Time Cooperative Education 2: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 191

**CET 193 Part-Time Cooperative Education 3: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 192

**CET 194 Part-Time Cooperative Education 4: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 193

**CET 195 Part-Time Cooperative Education 5: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 194

**CET 196 Part-Time Cooperative Education 6: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 195

**CET 200 Structural Design****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on methods for evaluation and design of structural steel and reinforced concrete members, using AISC and ACI requirements. Topics include: design methodologies focused on bending moment behavior, tension and compression behavior, shear behavior, and connections; and common field testing techniques for concrete.

Prerequisites: CET 125

**CET 205 Architectural Design and 3D Modeling: Revit Architecture****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on architectural details and information required in a complete set of professional working drawings for an office or commercial building. Topics include: using CAD design software and Revit Architecture.

Prerequisites: CET 120

Corequisites: CET 211, CET 212

**CET 210 Lighting and Electrical Systems Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts for lighting and electrical design in commercial buildings. Topics include: creating sets of drawings in AutoCAD and Revit Architecture, and using the National Electric Code.

Prerequisites: CET 120

**CET 211 Advanced Revit: Mechanical****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on understanding concepts of plumbing and mechanical systems and preparing details of plumbing and mechanical systems layouts using Revit software.

Prerequisites: CET 120

Corequisites: CET 205, CET 212

**CET 212 Advanced Revit: Electrical****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on understanding concepts of electrical power and lighting systems and preparing details of electrical power and lighting systems layouts using Revit software.

Prerequisites: CET 120

Corequisites: CET 205, CET 211

**CET 215 Mechanical and HVAC Systems Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts of mechanical and HVAC design for commercial buildings. Topics include: creating sets of design drawings using AutoCAD and Revit, and Ohio mechanical and plumbing codes.

Prerequisites: CET 120

**CET 220 3D Modeling: Revit MEP and Revit Structure****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applying design concepts and preparing details of mechanical and electrical systems, plumbing, and structure in buildings using Revit MEP and Revit Structure software.

Prerequisites: CET 205

**CET 225 Building Construction****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how buildings and structures are assembled. Topics include: methods and materials for residential, commercial, industrial, and highway construction including wood frame, masonry, pre-engineered metal, tilt-up, and high-rise construction; building codes; zoning regulations; and footing design.

Prerequisites: None

Ohio Transfer Assurance Guide Approved

Ohio Career-Technical Assurance Guide Approved

**CET 230 Construction Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that examines current concerns in construction management. Topics include: project delivery systems, contract types, and using Web-based software for daily project management.

Prerequisites: CET 135

**CET 235 Construction Scheduling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on preparing precedence diagram CPM schedules and calculating the critical path, including start-to-start and finish-to-finish relationship types with lag. Topics include: using scheduling software, fast-tracking, reverse phase scheduling, and revising and updating schedules.

Prerequisites: CET 135

**CET 240 Cost Engineering****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how budgets evolve as projects move from pre-design through construction. Topics include: types of estimates employed at each phase, formulating unit prices, time value of money and true profit, cash flow, cost indices, and using estimating software.

Prerequisites: CET 135

**CET 245 Building Information Models for Construction****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on using building modeling software for construction management tasks such as estimating, trade coordination, and scheduling. Topics include: parameter creation, quantity takeoff, estimation, interference checking, and timeline visualization.

Prerequisites: CET 120

**CET 250 Route Location and Design****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on highway design criteria and standards. Topics include: design and layout of horizontal curves, verticals, and spirals; superelevation use; typical sections; and boundary, area, and right-of-way determination. Students complete outdoor field exercises and computer lab exercises.

Prerequisites: CET 110

**CET 251 Elements of Land Surveying 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts and techniques of land boundary surveying. Topics include: records research, state minimum standards, monumentation of corners, and simple plats and legal descriptions. Students must complete field exercises.

Prerequisites: CET 110

**CET 252 Elements of Land Surveying 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of CET 251. Topics include: sequential and simultaneous boundaries, riparian and littoral boundaries, public land surveys, easements, and legal principles of property relating to surveyors.

Prerequisites: CET 251

**CET 255 Land Information Modeling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques of land modeling. Topics include: mapping, using geographic information system software, advanced digital terrain modeling, 3D laser scanning, LIDAR, high-definition surveying, and 3D site modeling for visualization and machine-control projects.

Prerequisites: CET 110

**CET 260 Control Surveying****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course in concepts and techniques of control surveying. Topics include: basic geodesy, state plane coordinate concepts and calculations, establishing horizontal and vertical control, GPS positioning, and network adjustment. Students complete outdoor field exercises and computer lab exercises.

Prerequisites: CET 110

**CET 265 Subdivision Design and Drainage Control****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying land surveying and civil engineering design principles to land development projects. Topics include: subdivision regulations, zoning regulations, lot layout, street layout, utility design, drainage, and site grading. Students create a set of subdivision drawings to meet local standards.

Prerequisites: CET 255

**CET 266 Surveying History in Ohio, Kentucky, and Indiana****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the history of surveying in Ohio, Indiana, and Kentucky, including the original surveys in these states.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 267 Surveying Laws and Ethics****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on surveying law and professional ethics in Ohio, Indiana, and Kentucky, including legislation and regulations affecting land surveyors in these states.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 270 OSHA 30 for Construction****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in the construction industry. Topics include: workers' rights, employer responsibilities, how to file a complaint, and other information required to receive OSHA 30 certification by the U.S. Department of Labor's Occupational Safety and Health Administration.

Prerequisites: None

**CET 277 Survey Calculations and Statistics****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on survey calculations employing statistical concepts. Topics include: descriptive and inferential statistics, advanced coordinate geometry methods, least squares adjustment, and error theory.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 280 Civil Engineering Technology Architectural Capstone****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

Students design a one-story commercial building with complete, integrated building systems for architectural, mechanical, and electrical systems; apply multiple appropriate codes; and create sets of drawings using AutoCAD and Revit software as appropriate.

Prerequisites: CET 205 and CET 210 and CET 215

**CET 285 Civil Engineering Technology Construction Management Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students respond to a request for construction management services and complete a project that demonstrates integrated competencies in estimating, scheduling, communicating, and teamwork.

Prerequisites: CET 230 and CET 235

**CET 287 Geospatial Surveying****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on surveying using geospatial methods. Topics include: satellite positioning, geographic information systems, remote sensing, and laser scanning.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 290 Civil Engineering Technology Surveying Capstone****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

Students complete a project that demonstrates integrated competencies in surveying and mapping, including data collection, field work, computer laboratory work, and use of conventional and GPS equipment.

Prerequisites: CET 251

**CET 291 Full-Time Cooperative Education 1: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CET 292 Full-Time Cooperative Education 2: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 291

**CET 293 Full-Time Cooperative Education 3: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 292

**CET 294 Internship 1: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 100

**CET 295 Internship 2: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 294

**SUR Courses****SUR 100 Introduction to Land Surveying****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on foundational concepts in land surveying. Topics include: Land Surveying program expectations and curriculum, career preparation, licensing, ethics, diversity, and OSHA regulations. Students use Microsoft Word, Excel, and PowerPoint to complete assignments.

Prerequisites: None

**SUR 120 Computer Aided Design, Civil 3D, and Surveying Software****4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on applying advanced concepts of computer aided design, using Civil 3D and other surveying software.

Prerequisites: CET 115

**SUR 221 Dendrology 1****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A 7-week course on identification of commonly-encountered woody plants of southwestern Ohio, southeastern Indiana, and northern Kentucky, emphasizing use of botanical keys for identification during the summer season. Topics include: identifying markings and evidence of tree remnants to identify property corners and witness corners for land surveying.

Prerequisites: None

**SUR 222 Dendrology 2****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A 7-week course that is a continuation of SUR 221, emphasizing use of botanical keys for identification during the winter season while identifying commonly-encountered woody plants of southwestern Ohio, southeastern Indiana, and northern Kentucky.

Prerequisites: SUR 221

**SUR 391 Part-Time Cooperative Education 1: Land Surveying****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking a bachelor's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**SUR 420 Photogrammetry and Remote Sensing**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for photogrammetry and remote sensing. Topics include: laser scanning, data storage and usage, data sharing, unmanned aerial vehicles, and other current advanced surveying technologies.

Prerequisites: CET 277 and CET 287

**SUR 465 Subdivision Design and Drainage Control**  
**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for subdivision design and drainage control, emphasizing large land developments and site design.

Prerequisites: SUR 120 and CET 250

**SUR 490 Land Surveying Capstone**  
**3 Credits. 1 Lecture Hour. 6 Lab Hours.**

Students complete a field project that demonstrates integrated competencies in advanced surveying concepts and techniques, and review topics included in the National Council of Examiners for Engineering and Surveying (NCEES) Fundamentals of Surveying exam.

Prerequisites: CET 250 and CET 252 and CET 267

**SUR 491 Full-Time Cooperative Education 3: Land Surveying**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking a bachelor's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**SUR 492 Full-Time Cooperative Education 4: Land Surveying**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking a bachelor's degree participate in their fourth full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

## Mechanical Engineering Technologies

Graduates of the Mechanical Engineering Technologies programs are prepared to design mechanical systems, operate CAD systems, manage design projects, and perform product testing.

Two associate's degree programs and two certificates are offered:

- **Mechanical Engineering Technology - Design Major (METD)**
- **Mechanical Engineering Technology - Manufacturing Management Option (METM)**
- **Computer Aided Design Certificate (METCAD)**
- **CNC Certificate (METMC)**

Examples of graduate job titles include product designer, CAD/CAM system specialist, product support manager, design engineering technician, or project engineering technician.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

## Mechanical Engineering Technology - Design Major & Computer Aided Design Certificate (METD & METCAD)

### Mechanical Engineering Technology—Design Major (METD)

Students in the Mechanical Engineering Technology - Design Major learn to use the latest technology to design and manufacture devices and systems for consumer products, machine tools, and the automotive and aerospace industries.

The curriculum prepares students to solve real-world problems from concept to completion using logical thinking as well as computer software, including computer-aided design (CAD) and computer-aided engineering (CAE).

The MET - Design Major is the traditional Mechanical Engineering Technology program. Graduates earn an Associate of Applied Science degree, and are well prepared to continue their education in a related engineering bachelor's degree program.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Mechanical Engineering Technology - Computer Aided Design Certificate (METCAD)

The Mechanical Engineer Technology - Computer Aided Design Certificate assists professionals who want to upgrade their skills, and also prepares new students for entry-level jobs in the field of computer-aided design (CAD).

While completing the certificate, students gain proficiency with the most popular CAD software packages used in industry, including AutoCAD, Inventor, SolidWorks, and NX.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Mechanical Engineering Technology—Design Major (METD)

Semester 1		Lec	Lat	Credits
MET 100	Introduction to Mechanical Engineering Technology ( B)	1	2	2
MET 111	Manufacturing Processes 1 ( B)	2	3	3
MET 131	MET Computer Aided Drafting 1 ( B)	2	3	3
ENG 101	English Composition 1 ( G)	3	0	3

FYE 1XX First Year Experience Elective (B)		1	0	1
MAT XXX Mathematics Elective 1 (G)		3	2	4
<b>Semester 2</b>				
MET 132	MET Computer Aided Drafting 2 (T)	2	3	3
MET 140	Engineering Materials (T)	2	2	3
MET 150	Statics and Strength of Materials for MET (T)	2	3	3
ENG 10X English Composition Elective (G)		3	0	3
MAT XXX Mathematics Elective 2 (B)		3	2	4
<b>Semester 3</b>				
MET 291	Full-Time Cooperative Education 1: Mechanical Engineering Technology (T)	1	40	2
<b>Semester 4</b>				
MET 240	Hydraulics and Pneumatics (T)	2	3	3
MET 250	Machine Design (T)	3	3	4
MET 285	Mechanical Engineering Technology Capstone Project 1 (T)	2	3	3
PHY 151	Physics 1: Algebra and Trigonometry-Based (G)	3	3	4
<b>Semester 5</b>				
MET 260	Applied Thermodynamics (T)	2	2	3
MET 270	Kinematics (T)	2	2	3
MET 290	Mechanical Engineering Technology Capstone Project 2 (T)	2	3	3
EET 101	Electronic Fundamentals 1 (T)	2	3	3
XXX XXX Arts/ Humanities or Social/ Behavioral Science Elective (G)		3	0	3
<b>Semester 6</b>				
MET 292	Full-Time Cooperative Education 2: Mechanical Engineering Technology (T)	1	40	2
<b>Total Credits:</b>		47	122	65

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
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FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Mathematics Electives 8

Take one of the following series:

MAT 125 Algebra and Trigonometry & MAT 126 and Functions and Calculus

Or

MAT 251 Calculus 1 & MAT 252 and Calculus 2

### English Composition Elective

ENG 102 English Composition 2: Contemporary Issues 3

ENG 104 English Composition 2: Technical Communication 3

ENG 105 English Composition 2: Business Communication 3

### Arts/Humanities or Social/Behavioral Science Elective

Any course from CULT, ECO, GEO, HST, LBR, PHI, POL, PSY, SOC

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Mechanical Engineering Technology - Computer Aided Design Certificate (METCAD)

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
MET 100	Introduction to Mechanical Engineering Technology	1	2	2
MET 131	MET Computer Aided Drafting 1	2	3	3
MAT 1XX	Mathematics Elective	3	2	4
<b>Semester 2</b>				
MET 111	Manufacturing Processes 1	2	3	3
MET 132	MET Computer Aided Drafting 2	2	3	3
MET 140	Engineering Materials	2	2	3
<b>Total Credits:</b>		12	15	18

## Electives

### Mathematics Elective

MAT 124	Applied Algebra and Geometry	4
MAT 125	Algebra and Trigonometry	4

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Mechanical Engineering Technology (METD, METM)

- Ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments.
- Ability to function effectively as a member of a technical team.
- Ability to design systems, components, or processes to solve engineering technology problems.
- Ability to identify, analyze, and solve narrowly defined engineering technology problems.
- Ability to apply written, oral, and graphical communication in technical environments.
- Demonstrate commitment to quality, timeliness, and continuous improvement.

## Faculty

### Program Chair/Advisor

Michael DeVore, PhD, PE  
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### Co-op Coordinator

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### Advisors

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## Courses

### MET 100 Introduction to Mechanical Engineering Technology 2 Credits. 1 Lecture Hour. 2 Lab Hours.

An orientation to the Mechanical Engineering Technology program and the profession. Topics include: computers and software used in the profession, career opportunities, professional skills, and preparation for cooperative education.

Prerequisites: ENG 085 and MAT 124, or appropriate placements

### MET 111 Manufacturing Processes 1 3 Credits. 2 Lecture Hours. 3 Lab Hours.

An introduction to machining and fabrication. Topics include: measuring techniques, manual and computer numerical controlled metal removal processes, machine operations, and materials considerations.

Prerequisites: ENG 085 and MAT 124, or appropriate placements  
Ohio Transfer Assurance Guide Approved

### MET 112 Manufacturing Processes 2 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A continuation of MET 111. Topics include: CNC programming of complex parts on two-axis mills and lathes, and CNC control.

Prerequisites: MET 111 (minimum grade C), and MET 131, and MAT 124 or MAT 125, or appropriate placement

### MET 113 Manufacturing Processes 3 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A continuation of MET 112. Topics include: CAM simulation, machining processes, prototyping techniques, and using CAD/CAM software to create programs for producing components on CNC machines.

Prerequisites: MET 112 (minimum grade C)

### MET 131 MET Computer Aided Drafting 1 3 Credits. 2 Lecture Hours. 3 Lab Hours.

An introduction to mechanical drafting and computer aided drafting.

Topics include: geometric construction, orthographic projection, dimensioning, section views, and auxiliary views.

Prerequisites: ENG 085 and MAT 124, or appropriate placements  
Ohio Transfer Assurance Guide Approved

### MET 132 MET Computer Aided Drafting 2 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A continuation of MET 131. Topics include: 3D modeling, geometric dimensioning and tolerancing, and creating assembly models.

Prerequisites: MET 131 (minimum grade C)  
Ohio Transfer Assurance Guide Approved

### MET 140 Engineering Materials 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on the materials used in designing and manufacturing machinery and products. Topics include: steel and non-ferrous metals, polymers, ceramics, and composites. Students use the materials testing laboratory to study physical and mechanical properties of materials.

Prerequisites: MET 111 and MAT 124, or appropriate placement  
Ohio Transfer Assurance Guide Approved

### MET 150 Statics and Strength of Materials for MET 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A course on analyzing forces that occur within machine and structural elements subjected to various types of loads. Topics include: vector analysis, free body diagrams, individual stresses, and combined stresses.

Prerequisites: MAT 124 or MAT 125 or appropriate placement



**MET 191 Part-Time Cooperative Education 1: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 100

**MET 192 Part-Time Cooperative Education 2: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 191

**MET 193 Part-Time Cooperative Education 3: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 192

**MET 194 Part-Time Cooperative Education 4: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 193

**MET 195 Part-Time Cooperative Education 5: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 194

**MET 196 Part-Time Cooperative Education 6: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 195

**MET 215 Advanced and Additive Manufacturing**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on innovative manufacturing techniques and tools used in industry today. Topics include additive manufacturing, rapid prototyping, laser scanning, laser cutting, and reverse engineering.  
Prerequisites: MET 112 and MET 132

**MET 230 Quality Control and Six Sigma**  
**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on modern quality methods used in manufacturing. Topics include: data collection, statistical process control, continuous improvement, and the reduction of product defects through the six-sigma process.  
Prerequisites: MET 150

**MET 240 Hydraulics and Pneumatics**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applied fluid power systems. Topics include: fluid transport, power systems components and circuits, relay logic, and ladder diagrams. Students design, build, and operate hydraulic and pneumatic circuits in the laboratory.  
Prerequisites: MET 150

**MET 250 Machine Design**  
**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying principles of engineering mechanics and strength of materials to the analysis and selection of mechanical components. Topics include: combined stresses, failure theories, shaft components, shaft design, and fasteners.  
Prerequisites: MET 140 and MET 150 (minimum grade C for both)

**MET 260 Applied Thermodynamics**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course in the engineering study of energy. Topics include: first and second laws of thermodynamics, general energy equation, Mollier diagrams, ideal cycles, steam generation and turbines, and refrigeration.  
Prerequisites: MET 150 and MAT 124, or appropriate placement

**MET 270 Kinematics**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on analyzing mechanisms. Topics include: linear and angular displacement, velocity, acceleration, mass moment of inertia, and dynamic balance. Students use computer simulation software to analyze machine motions and forces.  
Prerequisites: MET 150 and PHY 151

**MET 285 Mechanical Engineering Technology Capstone Project 1**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students participate in a team design project. Topics include: feasibility study, design concepts, detail and assembly drawings, bill of materials, commercial and fabricated parts, vendors, costs, and manufacturing.  
Prerequisites: MET 111 and MET 132 and MET 140 and MET 150 (minimum grade C for all)

**MET 290 Mechanical Engineering Technology Capstone Project 2**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of MET 285. Students manufacture, assemble, and test the product designed in MET 285, and prepare a presentation on the complete design process.  
Prerequisites: MET 285

**MET 291 Full-Time Cooperative Education 1: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 100

**MET 292 Full-Time Cooperative Education 2: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 291

**MET 293 Full-Time Cooperative Education 3: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 292

**MET 294 Internship 1: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 100

**MET 295 Internship 2: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 294

## Mechanical Engineering Technology - Manufacturing Management Option & CNC Certificate (METM, METMC)

### Mechanical Engineering Technology —Manufacturing Management Option (METM)

In the Mechanical Engineering Technology - Manufacturing Management Option, students gain proficiency using the technologies and skills needed to manage a high-tech production facility.

The curriculum includes hands-on manufacturing processes, state-of-the-art computer-aided drafting and computer-aided machining (CAD/CAM), computer numerical control (CNC), and materials and quality control analysis using statistical process control (SPC).

Graduates earn an Associate of Applied Science degree and are prepared for immediate employment in a production facility, or for transition into to related bachelor's degree studies.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

### Mechanical Engineering Technology - Manufacturing CNC Certificate (METMC)

The Mechanical Engineering Technology - Manufacturing CNC Certificate is designed for individuals currently employed in a manufacturing field who desire additional knowledge of computer numerical control (CNC) programming and computer-aided manufacturing processes.

Most students can complete the certificate requirements in a year or less. All courses completed while earning this certificate may be applied to the associate's degree program Mechanical Engineering Technology - Manufacturing Management Option.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

### Mechanical Engineering Technology — Manufacturing Management Option (METM)

Semester 1		Lec	Lat	Credits
MET 100	Introduction to Mechanical Engineering Technology ( B )	1	2	2
MET 111	Manufacturing Processes 1 ( B )	2	3	3
MET 131	MET Computer Aided Drafting 1 ( B )	2	3	3
ENG 101	English Composition 1 ( G )	3	0	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
MAT XXX	Mathematics Elective 1 ( G )	3	2	4
Semester 2				
MET 112	Manufacturing Processes 2 ( T )	2	3	3
MET 132	MET Computer Aided Drafting 2 ( T )	2	3	3
MET 140	Engineering Materials ( T )	2	2	3
MET 150	Statics and Strength of Materials for MET ( T )	2	3	3

MAT XXX Mathematics Elective 2 (B)		3	2	4
<b>Semester 3</b>				
MET 291	Full-Time Cooperative Education 1: Mechanical Engineering Technology ( T)	1	40	2
<b>Semester 4</b>				
MET 113	Manufacturing Processes 3 ( T)	2	3	3
MET 240	Hydraulics and Pneumatics ( T)	2	3	3
MET 285	Mechanical Engineering Technology Capstone Project 1 ( T)	2	3	3
EET 101	Electronic Fundamentals 1 ( T)	2	3	3
ENG 10X English Composition Elective (G)		3	0	3
<b>Semester 5</b>				
MET 290	Mechanical Engineering Technology Capstone Project 2 ( T)	2	3	3
PHY 151	Physics 1: Algebra and Trigonometry-Based ( G)	3	3	4
XXX XXX Arts/ Humanities or Social/ Behavioral Science Elective (G)		3	0	3
MET 215	Advanced and Additive Manufacturing ( T)	2	3	3
<b>Semester 6</b>				
MET 292	Full-Time Cooperative Education 2: Mechanical Engineering Technology ( T)	1	40	2
Total Credits:		46	124	64

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Mathematics Electives 8

Take one of the following series:

MAT 125 Algebra and Trigonometry  
& MAT 126 and Functions and Calculus

Or

MAT 251 Calculus 1  
& MAT 252 and Calculus 2

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Arts/Humanities or Social/Behavioral Science Elective

Any course from CULT, ECO, GEO, HST, LBR, PHI, POL, PSY, SOC

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Mechanical Engineering Technology - Manufacturing CNC Certificate (METMC)

### First Year

Semester 1		Lec	Lat	Credits
MET 111	Manufacturing Processes 1	2	3	3
MAT 12X	Mathematics Elective	3	2	4
MET 131	MET Computer Aided Drafting 1	2	3	3
Semester 2				
MET 112	Manufacturing Processes 2	2	3	3
MET 132	MET Computer Aided Drafting 2	2	3	3
Semester 3				
MET 113	Manufacturing Processes 3	2	3	3
Total Credits:		13	17	19

## Electives

### Mathematics Elective

MAT 124	Applied Algebra and Geometry	4
MAT 125	Algebra and Trigonometry	4

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Mechanical Engineering Technology (METD, METM)

- Ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments.
- Ability to function effectively as a member of a technical team.

- Ability to design systems, components, or processes to solve engineering technology problems.
- Ability to identify, analyze, and solve narrowly defined engineering technology problems.
- Ability to apply written, oral, and graphical communication in technical environments.
- Demonstrate commitment to quality, timeliness, and continuous improvement.

## Faculty

### Program Chair/Advisor

Michael DeVore, PhD, PE  
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### Co-op Coordinator

Sue Dolan, MEd  
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### Advisors

Wendy Steinberg, MS  
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Carole Womeldorf, PhD  
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## Courses

### **MET 100 Introduction to Mechanical Engineering Technology** **2 Credits. 1 Lecture Hour. 2 Lab Hours.**

An orientation to the Mechanical Engineering Technology program and the profession. Topics include: computers and software used in the profession, career opportunities, professional skills, and preparation for cooperative education.

Prerequisites: ENG 085 and MAT 124, or appropriate placements

### **MET 111 Manufacturing Processes 1** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to machining and fabrication. Topics include: measuring techniques, manual and computer numerical controlled metal removal processes, machine operations, and materials considerations.

Prerequisites: ENG 085 and MAT 124, or appropriate placements  
Ohio Transfer Assurance Guide Approved

### **MET 112 Manufacturing Processes 2** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of MET 111. Topics include: CNC programming of complex parts on two-axis mills and lathes, and CNC control.

Prerequisites: MET 111 (minimum grade C), and MET 131, and MAT 124 or MAT 125, or appropriate placement

### **MET 113 Manufacturing Processes 3** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of MET 112. Topics include: CAM simulation, machining processes, prototyping techniques, and using CAD/CAM software to create programs for producing components on CNC machines.

Prerequisites: MET 112 (minimum grade C)

### **MET 131 MET Computer Aided Drafting 1** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to mechanical drafting and computer aided drafting. Topics include: geometric construction, orthographic projection, dimensioning, section views, and auxiliary views.

Prerequisites: ENG 085 and MAT 124, or appropriate placements  
Ohio Transfer Assurance Guide Approved

### **MET 132 MET Computer Aided Drafting 2** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of MET 131. Topics include: 3D modeling, geometric dimensioning and tolerancing, and creating assembly models.

Prerequisites: MET 131 (minimum grade C)  
Ohio Transfer Assurance Guide Approved

### **MET 140 Engineering Materials** **3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the materials used in designing and manufacturing machinery and products. Topics include: steel and non-ferrous metals, polymers, ceramics, and composites. Students use the materials testing laboratory to study physical and mechanical properties of materials.

Prerequisites: MET 111 and MAT 124, or appropriate placement  
Ohio Transfer Assurance Guide Approved

### **MET 150 Statics and Strength of Materials for MET** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on analyzing forces that occur within machine and structural elements subjected to various types of loads. Topics include: vector analysis, free body diagrams, individual stresses, and combined stresses.

Prerequisites: MAT 124 or MAT 125 or appropriate placement

### **MET 191 Part-Time Cooperative Education 1: Mechanical Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 100

### **MET 192 Part-Time Cooperative Education 2: Mechanical Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 191

### **MET 193 Part-Time Cooperative Education 3: Mechanical Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 192

**MET 194 Part-Time Cooperative Education 4: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 193

**MET 195 Part-Time Cooperative Education 5: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 194

**MET 196 Part-Time Cooperative Education 6: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 195

**MET 215 Advanced and Additive Manufacturing****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on innovative manufacturing techniques and tools used in industry today. Topics include additive manufacturing, rapid prototyping, laser scanning, laser cutting, and reverse engineering.  
Prerequisites: MET 112 and MET 132

**MET 230 Quality Control and Six Sigma****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on modern quality methods used in manufacturing. Topics include: data collection, statistical process control, continuous improvement, and the reduction of product defects through the six-sigma process.  
Prerequisites: MET 150

**MET 240 Hydraulics and Pneumatics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applied fluid power systems. Topics include: fluid transport, power systems components and circuits, relay logic, and ladder diagrams. Students design, build, and operate hydraulic and pneumatic circuits in the laboratory.  
Prerequisites: MET 150

**MET 250 Machine Design****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying principles of engineering mechanics and strength of materials to the analysis and selection of mechanical components. Topics include: combined stresses, failure theories, shaft components, shaft design, and fasteners.  
Prerequisites: MET 140 and MET 150 (minimum grade C for both)

**MET 260 Applied Thermodynamics****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course in the engineering study of energy. Topics include: first and second laws of thermodynamics, general energy equation, Mollier diagrams, ideal cycles, steam generation and turbines, and refrigeration.  
Prerequisites: MET 150 and MAT 124, or appropriate placement

**MET 270 Kinematics****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on analyzing mechanisms. Topics include: linear and angular displacement, velocity, acceleration, mass moment of inertia, and dynamic balance. Students use computer simulation software to analyze machine motions and forces.  
Prerequisites: MET 150 and PHY 151

**MET 285 Mechanical Engineering Technology Capstone Project 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students participate in a team design project. Topics include: feasibility study, design concepts, detail and assembly drawings, bill of materials, commercial and fabricated parts, vendors, costs, and manufacturing.  
Prerequisites: MET 111 and MET 132 and MET 140 and MET 150 (minimum grade C for all)

**MET 290 Mechanical Engineering Technology Capstone Project 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of MET 285. Students manufacture, assemble, and test the product designed in MET 285, and prepare a presentation on the complete design process.  
Prerequisites: MET 285

**MET 291 Full-Time Cooperative Education 1: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 100

**MET 292 Full-Time Cooperative Education 2: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 291

**MET 293 Full-Time Cooperative Education 3: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 292

**MET 294 Internship 1: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 100

### **MET 295 Internship 2: Mechanical Engineering Technology** 2 Credits. 1 Lecture Hour. 40 Lab Hours.

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 294

## Multimedia Information Design

The Multimedia Information Design programs at Cincinnati State prepare students to design and produce media content in all formats. The final product might be distributed as an interactive DVD, a component of a mobile device application, a website, a TV or radio commercial, a production for television or movies, or printed information. The target audience may be a few people or many, and the products may be created for educational, entertainment, or commercial use.

Multimedia Information Design programs include four associate's degrees and a certificate:

- **Audio/Video Production (AVP)**
- **Graphic Design (GRD)**
- **Graphic Imaging Technology (GIT)**
- **Web and Multimedia Design (WEBM)**
- **Web and Multimedia Design Certificate (WEBC)**

All students complete a core set of courses covering basic skills in design and production of media content. Subsequent courses introduce program-specific competencies, ranging from 3-D animation to music video production.

Most of the Multimedia Information Design labs are housed in the College's Advanced Technology & Learning Center on the Clifton Campus. Students have access to a professional video studio and editing lab, a recording studio and digital mixing labs, usability testing labs, and computer labs.

Beginning in Fall Semester 2020, students entering any of the Multimedia Information Design programs will be expected to own a laptop computer and frequently-used software. Additional information about this requirement is available from program faculty, and on the College website pages for each degree or certificate program.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

## Audio/Video Production (AVP)

### Audio/Video Production (AVP)

The Audio/Video Production program at Cincinnati State prepares students to create and manipulate digital audio, video, and graphic images. Career destinations for AVP graduates include broadcast and cable television and other entertainment industries; web and multimedia development companies; and media production departments in commercial, corporate, and industrial settings.

A significant number of courses required for the degree are scheduled between 8 a.m. and 5 p.m., Monday through Friday. Some of the required courses also are offered in the evening or on weekends.

Beginning in Fall Semester 2020, students entering the Audio/Video Production program are expected to own a laptop computer and a subscription to cloud-based software used in classes. Additional information is available on the Audio/Video Production page of the College website or from the program chair.

Graduates earn an Associate of Applied Science degree. Job titles for graduates include video editor, sound designer, videographer, audio/video specialist, compositing artist, motion graphics designer, or production assistant.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Audio/Video Production (AVP)

Semester 1		Lec	Lat	Credits
ENG 101	English Composition 1 ( G )	3	0	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
MAT 105	Quantitative Reasoning ( G )	2	2	3
AVP 100	Introduction to Audio/Video Production ( B )	4	1	4
ART 125	Design Principles ( B )	2	3	3
Semester 2				
AVP 110	Videography: Single Camera Production and Lighting ( T )	2	3	3
GRD 120	Beginning 2D Graphics: Bitmap ( T )	2	3	3
ENG 10X	English Composition Elective ( G )	3	0	3
AVP 130	Audio: Editing Mixing ( T )	2	3	3
COMM 105	Interpersonal Communication ( G )	3	0	3
Semester 3				
TC XXX	Technical Communication Elective ( T )	2	3	3
MID 190	Career Preparation: Multimedia Information Design ( B )	2	0	2
MKT 115	Marketing Research for Multimedia Profes ( B )	3	0	3
AVP 120	Digital Video Editing ( T )	2	3	3
GRD 130	Beginning 2D Graphics: Vector ( T )	2	3	3
Semester 4				
AVP 230	Audio: Production/Sound Design ( T )	2	3	3
AVP 220	Video Editing and Compositing ( T )	2	3	3

AVP 210	Videography- Multi Camera Production and Lighting ( T)	2	3	3
AVP 240	Motion Graphics/Compositing: After Effects ( T)	2	3	3

**Semester 5**

AVP XXX	Co-op/ Internship Elective (T)	1	40	1
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**Semester 6**

XXX XXX	AVP Elective 1 (T)	1	2	2
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XXX XXX	AVP Elective 2 (T)	1	20	1
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XXX XXX	Social/ Behavioral Science Elective (G)	3	0	3
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Total Credits:		49	98	62
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**Electives****First Year Experience Elective**

FYE 100	College Survival Skills	1		
FYE 105	College Success Strategies	2		
FYE 110	Community College Experience	3		

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3		
ENG 103	English Composition 2: Writing about Literature	3		
ENG 104	English Composition 2: Technical Communication	3		
ENG 105	English Composition 2: Business Communication	3		

**Technical Communication Elective**

TC 205	Scriptwriting: Short Forms	3		
TC 210	Scriptwriting: Long	3		

**AVP Electives**

AVP 192	Part-Time Cooperative Education 2: Audio/Video Production	1		
AVP 250	Alternate Editing Platforms-Video	2		
AVP 255	Advanced Lighting Techniques	2		
AVP 260	Color Grading, Correction and Continuity	2		
AVP 265	Video Compression- DVD Authoring	2		
AVP 270	Alternate Editing Platforms- Audio	2		
AVP 275	Advanced Audio Mixing- 5.1 Surround	2		
AVP 280	Multit Track Recording Techniques	2		
AVP 285	AVP Independent Project	3		
AVP 292	Full-Time Cooperative Education 2: Audio/Video Production	2		
AVP 295	Internship 2: Audio/Video Production	2		
GRD 260	3D Visualization	5		
WEB 111	Web Development 1	3		
WEB 220	Animated and Interactive Web Content	3		

**Social/Behavioral Science Elective**

Any ECO, GEO, HST, LBR, POL, PSY, SOC	3
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**Co-op/Internship Elective**

AVP 191	Part-Time Cooperative Education 1: Audio/Video Production	1
AVP 291	Full-Time Cooperative Education 1: Audio/Video Production	2
AVP 294	Internship 1: Audio/Video Production	2

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G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Audio/Video Production (AVP)**

- Demonstrate technical proficiency across multiple disciplines of audio and video production.
- Demonstrate capability to function independently and exercise teamwork as a member of a film/video or audio production team.
- Demonstrate understanding of multiple complex workflows and demonstrate proper time management skills.
- Demonstrate ability to present, analyze, critique, and defend a variety of multimedia deliverables.
- Demonstrate ability to communicate messages and stories effectively and creatively to diverse audiences.
- Demonstrate professional communication and ethical workplace practices.

**Faculty****Program Chair/Advisor**

David Killen, MA  
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**Co-op Coordinator**

Andrea (Andi) Feld, BA  
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**Advisor**

Bernell Prince, BS  
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## AVP Courses

### AVP 100 Introduction to Audio/Video Production

**4 Credits. 4 Lecture Hours. 1 Lab Hour.**

A course on foundation principles of videography and lighting, audio and sound design, and video editing and post production. Topics include: industry vocabulary, workflow, and professional practices.

Prerequisites: None

### AVP 110 Videography: Single Camera Production and Lighting

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for single camera video production. Topics include: industry terminology, pre-production and planning, camera types and formats, shot composition, and use of gripping and support equipment.

Prerequisites: AVP 100 (minimum grade C)

### AVP 120 Digital Video Editing

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on non-linear digital video editing, with additional focus on storytelling and production workflow. Topics include: session set up, media management and acquisition, basic editing techniques, and output and delivery.

Prerequisites: AVP 100 (minimum grade C)

### AVP 130 Audio: Editing Mixing

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for digital audio editing and mixing using ProTools HD and LE systems. Topics include: session set-up, routing, signal flow, equalization, dynamics control, and delivery.

Prerequisites: AVP 100 (minimum grade C)

### AVP 191 Part-Time Cooperative Education 1: Audio/Video Production

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### AVP 192 Part-Time Cooperative Education 2: Audio/Video Production

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 191

### AVP 193 Part-Time Cooperative Education 3: Audio/Video Production

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 192

### AVP 194 Part-Time Cooperative Education 4: Audio/Video Production

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 193

### AVP 195 Part-Time Cooperative Education 5: Audio/Video Production

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 194

### AVP 196 Part-Time Cooperative Education 6: Audio/Video Production

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 195

### AVP 210 Videography- Multi Camera Production and Lighting

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for multi camera video production. Topics include: industry terminology, pre-production and planning, camera types and formats, shot composition, and use of gripping and support equipment.

Prerequisites: AVP 110 (minimum grade C)

### AVP 220 Video Editing and Compositing

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on advanced concepts and techniques for video editing. Topics include: text and motion graphics, compositing, color correction, keyframing, and multicamera editing and effects.

Prerequisites: AVP 120 (minimum grade C)

### AVP 230 Audio: Production/Sound Design

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on advanced concepts and techniques for audio production. Topics include: voice recording and direction, sound effects creation, music and editing, and mix-to-picture techniques.

Prerequisites: AVP 130 (minimum grade C)

### AVP 240 Motion Graphics/Compositing: After Effects

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on professional techniques for using Adobe After Effects in video post-production of movies and commercials.

Prerequisites: GRD 120 and GRD 130 (minimum grade C for all)

### AVP 250 Alternate Editing Platforms-Video

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on varieties of industry-standard software and hardware used for video editing.

Prerequisites: AVP 220 (minimum grade C)



**AVP 255 Advanced Lighting Techniques****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on advanced lighting techniques. Topics include: principles of electricity, color theory, and gripping and lighting for various digital media formats.

Prerequisites: AVP 210 (minimum grade C)

**AVP 260 Color Grading, Correction and Continuity****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for color correction and color grading. Topics include: balance and continuity, and creating emotional and special effect.

Prerequisites: AVP 220 (minimum grade C)

**AVP 265 Video Compression- DVD Authoring****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for video compression and DVD authoring. Topics include: past and current video file CODEC and format types, and file delivery and compatibility.

Prerequisites: AVP 220 (minimum grade C)

**AVP 270 Alternate Editing Platforms- Audio****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on varieties of industry-standard software and hardware used for audio editing.

Prerequisites: AVP 230 (minimum grade C)

**AVP 275 Advanced Audio Mixing- 5.1 Surround****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on advanced mix techniques using five-channel (5.1) surround sound. Topics include: bass management, recording for surround, and final output.

Prerequisites: AVP 230 (minimum grade C)

**AVP 280 Mult Track Recording Techniques****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for multi-track recording from pre-production through final mix. Topics include: session flow and management, microphone placement, and mixing techniques.

Prerequisites: AVP 230 (minimum grade C)

**AVP 285 AVP Independent Project****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work individually or with an approved team from concept to completion on a media production project, and present the results to reviewers. Topic and outline must be presented to a jury of instructors, and approved prior to course registration. Students who do not successfully complete the course may make one additional attempt.

Prerequisites: Audio/Video Production Program Chair consent, and minimum 3.0 GPA

Instructor Consent Required

**AVP 290 Audio/Video Production Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work in structured teams to develop audio and video deliverables for an external client, and present the results to reviewers. Activities include audience, client, and market analysis; and all phases of production including pre- and post. Students who do not successfully complete the course may make one additional attempt.

Prerequisites: Audio/Video Program Chair consent, and minimum 2.5 GPA

Instructor Consent Required

**AVP 291 Full-Time Cooperative Education 1: Audio/Video Production****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**AVP 292 Full-Time Cooperative Education 2: Audio/Video Production****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 291

**AVP 293 Full-Time Cooperative Education 3: Audio/Video Production****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 292

**AVP 294 Internship 1: Audio/Video Production****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MID 190

**AVP 295 Internship 2: Audio/Video Production****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 294

**MID Courses****MID 100 Multimedia Information Design Career Exploration Seminar****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using research and personal reflection to develop a strong foundation for selecting an academic program/major and planning a career related to Multimedia Information Design. Topics include: analyzing interests, abilities, and values; reviewing academic and personal requirements for related programs/majors; and examining career outcomes including salary, job availability, advancement opportunities, and other factors.

Prerequisites: None

**MID 110 Digital Media Concepts****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to operating systems, software, hardware, and peripheral equipment used to create, revise, and produce content for multimedia products.

Prerequisites: ENG 085 or appropriate placement

**MID 120 Drawing Fundamentals for Multimedia Information Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental drawing techniques used in multimedia fields. Topics include: sketching, 3-D drawing, conceptual drawing, and architectural drawing.

Prerequisites: None

**MID 125 Storyboarding****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamentals of storyboarding for video, animation, multimedia, and web. Topics include: traditional drawing and digital illustration, image acquisition and composition, shot framing and description, and industry standards for labeling.

Prerequisites: None

**MID 190 Career Preparation: Multimedia Information Design****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on career planning for students seeking employment in Multimedia Information Design fields. Topics include: self-assessment, career research, resume development, interview skills and job hunting strategies, and cooperative education policies and procedures.

Prerequisites: ART 125 or AVP 100 (minimum grade C for both)

## Graphic Design (GRD)

### Graphic Design (GRD)

Students in the Graphic Design program begin their studies with emphasis on two-dimensional art and design, both traditional and computer-based, using industry-standard software products. After successful completion of a required portfolio review process, students focus on advanced skills such as brand design and implementation, and motion design.

Currently many courses required for the degree are scheduled between 8 a.m. and 5 p.m., Monday through Friday. Some of the required courses also are offered in the evening or on weekends.

Beginning in Fall Semester 2020, students entering the Graphic Design program are expected to own a laptop computer and a subscription to cloud-based software used in classes. Additional information is available on the Graphic Design page of the College website or from the program chair.

Graduates earn an Associate of Applied Science degree. Job titles for graduates include graphic designer, motion designer, production artist, or web graphics/interface designer.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Graphic Design (GRD)

Semester 1		Lec	Lat	Credits
ART 125	Design Principles ( B )	2	3	3
ENG 101	English Composition 1 ( G )	3	0	3
MID 120	Drawing Fundamentals for Multimedia Information Design ( B )	2	3	3

FYE 1XX	First Year Experience Elective ( B )	1	0	1
MKT 115	Marketing Research for Multimedia Profes ( B )	3	0	3
<b>Semester 2</b>				
ART 120	Design History ( G )	3	0	3
GRD 120	Beginning 2D Graphics: Bitmap ( B )	2	3	3
GRD 130	Beginning 2D Graphics: Vector ( T )	2	3	3
MAT 105	Quantitative Reasoning ( G )	2	2	3
WEB 111	Web Development 1 ( B )	2	3	3
<b>Semester 3</b>				
GRD 150	Design Concepts: Typography ( T )	2	3	3
GRD 200	Graphic Design Portfolio Review ( T )	1	0	1
GRD 215	Applied 2D Graphics: GRD ( T )	2	3	3
GRD 250	User Interface Design and Implementation ( T )	2	3	3
MID 190	Career Preparation: Multimedia Information Design ( B )	2	0	2
<b>Semester 4</b>				
ENG 10X	English Composition Elective ( G )	3	0	3
XXX XXX	Animation Elective ( T )	2	3	3
XXX XXX	Social/Behavioral Science Elective ( G )	3	0	3
GRD 240	Packaging Design ( T )	2	3	3
<b>Semester 5</b>				
GRD 230	Brand Identity Development ( T )	2	3	3
GIT 255	Graphic Imaging Production Processes ( T )	2	3	3
GRD 290	Graphic Design Capstone ( T )	2	3	3
<b>Semester 6</b>				
GRD 294	Internship 1: Graphic Design ( T )	1	40	2
Total Credits:		48	81	63

### Electives

**First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3

ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3
<b>Animation Elective</b>		
AVP 240	Motion Graphics/Compositing: After Effects	3
GRD 260	3D Visualization	5
<b>Social/Behavioral Science Elective</b>		
Any CRJ, ECO, GEO, HST, LBR, POL, PSY, SOC		3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Graphic Design (GRD)

- Demonstrate understanding of fundamental design principles.
- Demonstrate competency in working with, creating, and navigating brand standards (designing under existing restrictions, as well as creating guidelines for future designers).
- Demonstrate proficiency with typography and typographic principles, in small amounts (posters, infographics, etc.) and large scale applications (200+ words, body copy, etc.).
- Demonstrate ability to think and speak critically about design and typographic language, including their own work and the work of others.
- Demonstrate proficiency in using Adobe Creative Suite.
- Demonstrate proficiency in design for packaging applications.
- Demonstrate knowledge and application of user interface/user experience design for web and mobile applications.
- Demonstrate proficiency in motion graphics and basic principles of animation.
- Demonstrate ability to ideate and visually represent creative ideas through use of hand-drawn sketches.

## Faculty

### Program Chair/Advisor

Jason Caudill, MS

jason.caudill@cincinnatiastate.edu

### Co-op Coordinator

Andrea (Andi) Feld, BA

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### Advisor

Wendy Steinberg, MS

wendy.steinberg@cincinnatiastate.edu

## GRD Courses

### GRD 110 Beginning 2D Graphics

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to concepts and techniques for digital design. Topics include: vector-based and raster-based graphics, emphasizing color and composition.

Prerequisites: MID 110 and ART 125 (minimum grade C for both)

### GRD 120 Beginning 2D Graphics: Bitmap

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to pixel-based design for multimedia applications.

Topics include: principles for creating and manipulating images using Adobe Photoshop, understanding the benefits and limitations of raster-based design tools, and techniques for photo restoration and manipulation.

Prerequisites: ART 125 (minimum grade C)

### GRD 130 Beginning 2D Graphics: Vector

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to vector design for multimedia, emphasizing color and composition, and techniques for stylized and photorealistic illustration.

Topics include: principles for creating images with Adobe Illustrator, identity design, layout, and line weight and quality.

Prerequisites: ART 125 (minimum grade C)

### GRD 150 Design Concepts: Typography

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the use of typography as a design element in short-form and long-form applications. Topics include: typography as image, and anatomy of type.

Prerequisites: GRD 110, ENG 101 or ENG REQC (minimum grade C for both)

### GRD 191 Part-Time Cooperative Education 1: Graphic Design

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### GRD 192 Part-Time Cooperative Education 2: Graphic Design

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester.

Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GRD 191

### GRD 193 Part-Time Cooperative Education 3: Graphic Design

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester.

Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GRD 192

**GRD 194 Part-Time Cooperative Education 4: Graphic Design**  
**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: GRD 193

**GRD 195 Part-Time Cooperative Education 5: Graphic Design**  
**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: GRD 194

**GRD 196 Part-Time Cooperative Education 6: Graphic Design**  
**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: GRD 195

**GRD 200 Graphic Design Portfolio Review**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

An assessment of skills required to enter upper-level courses in the Graphic Design program, including a technical skills exam and presenting a portfolio to a panel of evaluators. Students receive grades of Satisfactory or Unsatisfactory, and must pass the course to be eligible for cooperative education assignments. Those who do not pass may make one additional attempt.  
Prerequisites: Graphic Design Program Chair consent  
Instructor Consent Required

**GRD 210 Applied 2D Graphics: Audio/Video Production**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of GRD 110, focusing on creating 2D graphics for use in on-screen video applications.  
Prerequisites: GRD 110 (minimum grade C)

**GRD 215 Applied 2D Graphics: GRD**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of GRD 110, focusing on creating 2D graphics for print and graphic design applications.  
Prerequisites: GRD 110 (minimum grade C)

**GRD 220 Applied 2D Graphics: Web Design**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applications of 2D graphics techniques for raster-based and vector-based software, focusing on creating 2D graphics for Web and multimedia applications.  
Prerequisites: GRD 120 and GRD 130 and WEB 111 (minimum grade C for all)

**GRD 230 Brand Identity Development**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the development of strong brand identity concepts and materials for products and organizations. Topics include: analyzing existing brands, creating new brand identities, and developing brand standards manuals.  
Prerequisites: GRD 200

**GRD 240 Packaging Design**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on 2D design for product packaging. Topics include: analyzing audiences, creating basic die lines, and ensuring design continuity from surface to surface.  
Prerequisites: GRD 200, GRD 215

**GRD 250 User Interface Design and Implementation**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on designing and implementing the interface for web and mobile products, using Adobe Muse and WordPress software.  
Prerequisites: GRD 110 and WEB 111

**GRD 260 3D Visualization**  
**5 Credits. 3 Lecture Hours. 4 Lab Hours.**

An introduction to 3D concepts and skills using Maya software. Topics include: polygon, NURBS, and subdivision surface modeling; texturing; animation; lighting; rendering; interaction of soft and rigid body solvers; dynamics; and manipulation of 3D attributes using nodes and connections.  
Prerequisites: GRD 200

**GRD 285 Graphic Design Independent Final Project**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work individually or with an approved team from concept to completion on a graphic design project, and present the results to reviewers. Topic and outline must be presented to a jury of instructors, and approved prior to course registration. Students who do not successfully complete the course may make one additional attempt.  
Prerequisites: Graphic Design Program Chair consent, and minimum 3.0 GPA  
Instructor Consent Required

**GRD 290 Graphic Design Capstone**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work in structured teams to develop graphic design deliverables for an external client, and present the results to reviewers. Activities include audience, client, and market analysis; and all phases of production of materials. Students who do not successfully complete the course may make one additional attempt.  
Prerequisites: Graphic Design Program Chair consent, and minimum 2.5 GPA  
Instructor Consent Required

**GRD 291 Full-Time Cooperative Education 1: Graphic Design**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

**GRD 292 Full-Time Cooperative Education 2: Graphic Design**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: GRD 291

**GRD 293 Full-Time Cooperative Education 3: Graphic Design**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: GRD 292

**GRD 294 Internship 1: Graphic Design**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MID 190, GRD 200

**GRD 295 Internship 2: Graphic Design**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: GRD 294

## MID Courses

**MID 100 Multimedia Information Design Career Exploration Seminar****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using research and personal reflection to develop a strong foundation for selecting an academic program/major and planning a career related to Multimedia Information Design. Topics include: analyzing interests, abilities, and values; reviewing academic and personal requirements for related programs/majors; and examining career outcomes including salary, job availability, advancement opportunities, and other factors.  
Prerequisites: None

**MID 110 Digital Media Concepts****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to operating systems, software, hardware, and peripheral equipment used to create, revise, and produce content for multimedia products.  
Prerequisites: ENG 085 or appropriate placement

**MID 120 Drawing Fundamentals for Multimedia Information Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental drawing techniques used in multimedia fields. Topics include: sketching, 3-D drawing, conceptual drawing, and architectural drawing.  
Prerequisites: None

**MID 125 Storyboarding****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamentals of storyboarding for video, animation, multimedia, and web. Topics include: traditional drawing and digital illustration, image acquisition and composition, shot framing and description, and industry standards for labeling.  
Prerequisites: None

**MID 190 Career Preparation: Multimedia Information Design**  
**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on career planning for students seeking employment in Multimedia Information Design fields. Topics include: self-assessment, career research, resume development, interview skills and job hunting strategies, and cooperative education policies and procedures.  
Prerequisites: ART 125 or AVP 100 (minimum grade C for both)

## Graphic Imaging Technology (GIT)

### Graphic Imaging Technology (GIT)

**Note: This program is not currently admitting new students.**

The Graphic Imaging Technology program prepares students for professional careers in printing, publishing, packaging, and related industries. The core course ensure that graduates have the skills and knowledge required for most entry-level jobs in the field.

Students learn the processes for creating art and publishing materials from idea generation to production. Students also gain hands-on experience producing printed materials using the major printing processes, including offset lithography, packaging (flexography), screen printing, and digital printing.

Coursework emphasizes individual and team laboratory performance, while stressing the development of creativity and problem-solving skills.

Beginning in Fall Semester 2020, students entering the Graphic Imaging Technology program are expected to own a laptop computer and a subscription to cloud-based software used in classes. Additional information is available on the Graphic Imaging Technology page of the College website or from the program chair.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Graphic Imaging Technology (GIT)

Semester 1		Lec	Lat	Credits
FYE 1XX		1	0	1
First Year Experience Elective (B)				
GIT 100	Introduction to Graphic Imaging Technology ( B )	2	2	3
ENG 101	English Composition 1 ( G )	3	0	3
ART 125	Design Principles ( B )	2	3	3
MAT 105	Quantitative Reasoning ( G )	2	2	3
Semester 2				
MID 190	Career Preparation: Multimedia Information Design ( B )	2	0	2
GIT 105	Ink and Substrates ( T )	3	0	3
GIT 115	Adobe InDesign ( T )	2	3	3

GRD 120	Beginning 2D Graphics: Bitmap ( <b>T</b> )	2	3	3
GRD 130	Beginning 2D Graphics: Vector ( <b>T</b> )	2	3	3
<b>Semester 3</b>				
GIT 120	Digital Photography and Imaging ( <b>T</b> )	2	3	3
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
GIT 291	Full-Time Cooperative Education 1: Graphic Imaging Technology ( <b>T</b> )	1	40	2
<b>Semester 4</b>				
GIT 200	Digital Imaging and Publishing ( <b>T</b> )	1	6	3
GIT 240	Flexographic Printing Methods ( <b>T</b> )	1	6	3
GIT 220	Screen Printing ( <b>T</b> )	1	6	3
MKT 115	Marketing Research for Multimedia Profes ( <b>B</b> )	3	0	3
XXX	XXX Art/ Humanities Elective ( <b>G</b> )	3	0	3
<b>Semester 5</b>				
GIT 215	Applied 2D Graphics: Graphic Imaging Technology ( <b>T</b> )	2	3	3
GIT 230	Print Media Workflow ( <b>T</b> )	3	0	3
GIT 250	Offset Printing Methods ( <b>T</b> )	1	6	3
GIT 290	Graphic Imaging Technology Capstone ( <b>T</b> )	0	3	1
<b>Semester 6</b>				
GIT 292	Full-Time Cooperative Education 2: Graphic Imaging Technology ( <b>T</b> )	1	40	2
XXX XXX	Social/ Behavioral Science Elective ( <b>G</b> )	3	0	3
Total Credits:		46	129	65

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Social/Behavioral Science Elective

Any SOC, PSY, ECO, HST, GEO, LBR, POL	3
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### Arts/Humanities Elective

Any Transfer Module course from: ART, MUS, THE, or ART 120; or

Any course from: COMM (except COMM 110), CULT, FRN, ITP, LIT, PHI, REL, SPN

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Graphic Imaging Technology (GIT)

- Ability to use the Adobe Creative Suite (Illustrator, Photoshop, and InDesign) to prepare files for the print process.
- Ability to implement prepress techniques to ensure files are prepped correctly for offset, flexography, screen, and digital printing.
- Ability to determine the project cost estimate and imposition of layout based on press type, paper, and quantity.
- Understanding of paper characteristics such as weight, finish, and grain, and their impact on print processes.
- Understanding of proper graphic file formats, resolution, color modes, and bit depth, and their impact on print materials.
- Screen printing: Ability to determine appropriate mesh count and procedures to produce acceptable printed materials.
- Flexographic printing: Understanding of plate-making procedures and evaluation to determine plate specifications and usability; understanding of basic structure of a flexographic press including parts and operating procedures.
- Offset Lithography: Understanding of fundamentals of creating and producing lithographic projects; understanding of basic structure of an offset litho press including parts and operating procedures.
- Ability to create ICC profiles for output devices using standardized equipment such as colorimeters.
- Ability to use a spectrophotometer and comprehend data readings of print and ink materials.
- Ability to test and evaluate ink for each print process based on viscosity, adhesion, finish, cure methods, longevity, and pH.
- Ability to apply creative thinking skills to solve problems in lab situations that simulate "real world" experiences.
- Ability to work as a member of a team and coordinate a project from concept to finish.
- Ability to use communication and management skills in team projects.

## Faculty

### Program Chair/Advisor

Kathleen (Kathy) Freed, BA  
kathleen.freed@cincinnati.state.edu

### Co-op Coordinator

Andrea (Andi) Feld, BA  
andrea.feld@cincinnati.state.edu

### Advisor

Bernell Prince, BS  
bernell.prince@cincinnati.state.edu

## GIT Courses

### GIT 100 Introduction to Graphic Imaging Technology

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on evaluating printing processes. Topics include: lithography, flexography, screen, gravure, and digital-on-demand presses for print media; packaging options for advertising processes such as metal can, corrugated, and plastic packaging; and digital-on-demand presses for packaging.

Prerequisites: None

### GIT 105 Ink and Substrates

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on physical characteristics, manufacturing processes, and print industry uses for ink and paper. Topics include: how ink components affect color, drying properties of ink, printing substrates, and cost factors related to ink and paper choices.

Prerequisites: None

### GIT 115 Adobe InDesign

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using Adobe InDesign software to create and publish documents for print, web, or mobile devices. Topics include: master pages, styles, images, print production, optimized PDF files, and variable data.

Prerequisites: None

### GIT 120 Digital Photography and Imaging

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on producing quality images with digital cameras. Topics include: lighting; color balance; exposure; retouching; and reproducing images for uses including web, digital output devices, and printing presses.

Prerequisites: None

### GIT 130 Letterpress Printing

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to traditional methods of letterpress printing using a Heidelberg Platen press and a proofing press. Topics include: history of printing, basic typography, design and printing techniques using lead and hot metal type, and hand-carving linoleum blocks to make custom artwork.

Prerequisites: None

### GIT 191 Part-Time Cooperative Education 1: Graphic Imaging Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MID 190

### GIT 192 Part-Time Cooperative Education 2: Graphic Imaging Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 191

### GIT 193 Part-Time Cooperative Education 3: Graphic Imaging Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 192

### GIT 194 Part-Time Cooperative Education 4: Graphic Imaging Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 193

### GIT 195 Part-Time Cooperative Education 5: Graphic Imaging Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 194

### GIT 196 Part-Time Cooperative Education 6: Graphic Imaging Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 195

**GIT 200 Digital Imaging and Publishing****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A course on digital printing and output methods. Topics include: digital print processes and equipment, variable data fundamentals, database applications, and emerging technologies. Students must attend tours of companies that use current printing and publishing technologies.

Prerequisites: GIT 100 and GRD 120 and GRD 130

**GIT 215 Applied 2D Graphics: Graphic Imaging Technology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using page layout, vector, and image editing software applications for high-end production processes. Topics include: file construction, resolution of files and devices, trapping techniques, retouching, preflighting, color separations, profiling, color correction, variable data, and proofing.

Prerequisites: GIT 115 and GRD 120 and GRD 130

**GIT 220 Screen Printing****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A course on fundamentals of operating manual and semi-automatic screen printing presses. Topics include: file preparation, frames, mesh, emulsions, inks and additives, and printing on varied substrates and odd-shaped objects.

Prerequisites: GIT 100 and GRD 120 and GRD 130

**GIT 230 Print Media Workflow****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on determining printing job costs, emphasizing paper used in sheet-fed offset and flexographic printing. Topics include: cost factors, computer-assisted estimation and scheduling, file processing in a color-managed environment, and web-based job tracking.

Prerequisites: GIT 100 and GIT 105

**GIT 240 Flexographic Printing Methods****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A course on fundamental principles and practices of the flexographic printing industry. Topics include: artwork preparation, prepress, plates and platemaking, inks, substrates, tooling, presswork, and finishing operations unique to flexography.

Prerequisites: GIT 100 and GRD 120 and GRD 130

**GIT 250 Offset Printing Methods****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A course on high quality sheet-fed and web-fed offset printing and digital high-volume printing. Topics include: color consistency, controlling dot gain and slur, plugging halftones, maintaining ink and dampening systems, and using quality control production devices.

Prerequisites: GIT 200

**GIT 255 Graphic Imaging Production Processes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on preparing art for professional printing processes. Topics include: survey of print processes such as lithography, flexography, gravure, and screen printing; file construction; design considerations; and standards for evaluating printed materials.

Prerequisites: GRD 215 and GRD 230

**GIT 290 Graphic Imaging Technology Capstone****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Students complete activities that demonstrate their knowledge of concepts and techniques in Graphic Imaging Technology.

Prerequisites: Graphic Imaging Technology Program Chair consent, and minimum 2.5 GPA

Instructor Consent Required

**GIT 291 Full-Time Cooperative Education 1: Graphic Imaging Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MID 190

**GIT 292 Full-Time Cooperative Education 2: Graphic Imaging Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 291

**GIT 293 Full-Time Cooperative Education 3: Graphic Imaging Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 292

**MID Courses****MID 100 Multimedia Information Design Career Exploration Seminar****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using research and personal reflection to develop a strong foundation for selecting an academic program/major and planning a career related to Multimedia Information Design. Topics include: analyzing interests, abilities, and values; reviewing academic and personal requirements for related programs/majors; and examining career outcomes including salary, job availability, advancement opportunities, and other factors.

Prerequisites: None

**MID 110 Digital Media Concepts****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to operating systems, software, hardware, and peripheral equipment used to create, revise, and produce content for multimedia products.

Prerequisites: ENG 085 or appropriate placement

**MID 120 Drawing Fundamentals for Multimedia Information Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental drawing techniques used in multimedia fields. Topics include: sketching, 3-D drawing, conceptual drawing, and architectural drawing.

Prerequisites: None

**MID 125 Storyboarding****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamentals of storyboarding for video, animation, multimedia, and web. Topics include: traditional drawing and digital illustration, image acquisition and composition, shot framing and description, and industry standards for labeling.

Prerequisites: None



### **MID 190 Career Preparation: Multimedia Information Design** 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on career planning for students seeking employment in Multimedia Information Design fields. Topics include: self-assessment, career research, resume development, interview skills and job hunting strategies, and cooperative education policies and procedures. Prerequisites: ART 125 or AVP 100 (minimum grade C for both)

## **Web and Multimedia Design (WEBM & WEBC)**

### **Web and Multimedia Design (WEBM)**

The Web and Multimedia Design degree program prepares students to design and deliver interactive multimedia content for web, CD, DVD, and kiosk deployment. Students gain the knowledge and skills needed to create original digital art used to integrate text, images, animation, video, and other content into effective web and interactive multimedia products.

Beginning in Fall Semester 2020, students entering the Web and Multimedia Design program are expected to own a laptop computer and a subscription to cloud-based software used in classes. Additional information is available on the Web and Multimedia Design page of the College website or from the program chair.

Graduates of the program earn an Associate of Applied Science degree.

Job titles for graduates include: web designer, web applications developer, multimedia designer/ animator, multimedia designer, multimedia developer, web/multimedia project manager, user interface designer, web/multimedia graphics designer, eBusiness developer, and interactive multimedia designer.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### **Web and Multimedia Design Certificate (WEBC)**

The Web and Multimedia Design Certificate assists individuals currently working in a business, marketing, or IT-related field who want to upgrade their skills in design and development of interactive content for websites and other multimedia products.

Beginning in Fall Semester 2020, students entering the Web and Multimedia Design Certificate program will be expected to own a laptop computer and frequently-used software. Additional information about this requirement is available from program faculty, and on the Web and Multimedia Design Certificate page of the College website.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## **Web and Multimedia Design (WEBM)**

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
ENG 101	English Composition 1 ( G )	3	0	3
WEB 111	Web Development 1 ( B )	2	3	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
MKT 115	Marketing Research for Multimedia Profes ( B )	3	0	3
ART 125	Design Principles ( B )	2	3	3
<b>Semester 2</b>				
WEB 112	Web Development 2 ( T )	2	3	3
ENG 10X	English Composition Elective ( G )	3	0	3
GRD 120	Beginning 2D Graphics: Bitmap ( T )	2	3	3
GRD 130	Beginning 2D Graphics: Vector ( T )	2	3	3
<b>Semester 3</b>				
WEB 130	Web Programming: JavaScript ( T )	2	3	3
WEB 220	Animated and Interactive Web Content ( T )	2	3	3
WEB 225	Applied 2D Graphics: Web Design	2	3	3
COMM 105	Interpersonal Communication ( G )	3	0	3
<b>Semester 4</b>				
MID 190	Career Preparation: Multimedia Information Design ( B )	2	0	2
WEB 200	Web Design Portfolio Review ( T )	2	3	3
XXX XXX	Technical Elective 1 ( T )	2	2	3
MAT 105	Quantitative Reasoning ( G )	2	2	3
XXX XXX	Technical Elective 2 ( T )	2	2	3
<b>Semester 5</b>				
WEB 291	Full-Time Cooperative Education 1: Web & Multimedia Design ( T )	1	40	2
<b>Semester 6</b>				
WEB 240	Web Development: Advanced Topics ( T )	2	3	3
XXX XXX	Social/ Behavioral Science Elective ( G )	3	0	3
XXX XXX	Technical Elective 3 ( T )	2	2	3

XXX XXX Technical Elective 4 (T)	2	2	3
Total Credits:	49	80	65

### Electives

#### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

#### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

#### Social/Behavioral Science Elective

Any CRJ, ECO, GEO, HST, LBR, POL, PSY, SOC	3
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#### Technical Electives \*

AVP 100	Introduction to Audio/Video Production	4
AVP 240	Motion Graphics/Compositing: After Effects	3
GIT 115	Adobe InDesign	3
GIT 120	Digital Photography and Imaging	3
GRD 150	Design Concepts: Typography	3
GRD 250	User Interface Design and Implementation	3
GRD 260	3D Visualization	5
IT 101	Programming 1	3
IT 111	Database Design and SQL 1	3
IT 112	Database Design and SQL 2	3
TC 235	User Experience Design and Usability Assessment	3

\* Students should meet with the Program Chair for advising on choices for Technical Electives.

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Web and Multimedia Design Certificate (WEBC)

Semester 1		Lec	Lat	Credits
MKT 115	Marketing Research for Multimedia Profes	3	0	3
WEB 111	Web Development 1	3	2	3
XXX XXX	Technical Elective	2	2	3
ART 125	Design Principles	2	3	3
Semester 2				
WEB 130	Web Programming: JavaScript	2	3	3
WEB 112	Web Development 2	2	3	3
GRD 120	Beginning 2D Graphics: Bitmap	2	3	3
WEB 220	Animated and Interactive Web Content	2	3	3
Total Credits:		18	19	24

### Electives

#### Technical Elective

Any AVP, GIT, GRD, MID, TC, WEB (not including courses that are certificate requirements)

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Web and Multimedia Design (WEBM)

- Demonstrate ability to apply and use HTML coding language for web development.
- Demonstrate ability to use CSS to style the appearance and layout of web pages throughout a site.
- Demonstrate ability to use JavaScript to develop and maintain dynamic and interactive web pages.
- Demonstrate proficiency using Adobe Illustrator.
- Demonstrate proficiency using Adobe Photoshop.
- Demonstrate proficiency using Adobe Dreamweaver.
- Demonstrate proficiency using Adobe Animate.
- Demonstrate ability to apply fundamentals of other Adobe Creative Cloud programs, such as InDesign, Premier, After Effects, Lightroom, Acrobat Pro, Character Animator, and Media Encoder.
- Demonstrate ability to successfully communicate, present, and defend portfolios and projects.
- Demonstrate ability to assess and speak critically about their own web design work and the work of other design teams in the industry.
- Demonstrate ability to develop and deliver a competitive professional portfolio site (including CV and cover letters) that passes industry review.

## Faculty

### Program Chair/Advisor

David Hocter, BA  
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### Co-op Coordinator

Andrea (Andi) Feld, BA  
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### Advisor

Bernell Prince, BS  
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## MID Courses

### MID 100 Multimedia Information Design Career Exploration Seminar

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using research and personal reflection to develop a strong foundation for selecting an academic program/major and planning a career related to Multimedia Information Design. Topics include: analyzing interests, abilities, and values; reviewing academic and personal requirements for related programs/majors; and examining career outcomes including salary, job availability, advancement opportunities, and other factors.

Prerequisites: None

### MID 110 Digital Media Concepts

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to operating systems, software, hardware, and peripheral equipment used to create, revise, and produce content for multimedia products.

Prerequisites: ENG 085 or appropriate placement

### MID 120 Drawing Fundamentals for Multimedia Information Design

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental drawing techniques used in multimedia fields. Topics include: sketching, 3-D drawing, conceptual drawing, and architectural drawing.

Prerequisites: None

### MID 125 Storyboarding

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamentals of storyboarding for video, animation, multimedia, and web. Topics include: traditional drawing and digital illustration, image acquisition and composition, shot framing and description, and industry standards for labeling.

Prerequisites: None

### MID 190 Career Preparation: Multimedia Information Design

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on career planning for students seeking employment in Multimedia Information Design fields. Topics include: self-assessment, career research, resume development, interview skills and job hunting strategies, and cooperative education policies and procedures.

Prerequisites: ART 125 or AVP 100 (minimum grade C for both)

## WEB Courses

### WEB 111 Web Development 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to website design using CSS and HTML5.

Prerequisites: None

### WEB 112 Web Development 2

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of WEB 111. Topics include: advanced use of cascading style sheets, and ensuring multi-platform and cross-browser usability of websites.

Prerequisites: WEB 111 (minimum grade C)

### WEB 130 Web Programming: JavaScript

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of the JavaScript scripting language.

Prerequisites: WEB 111 (minimum grade C)

### WEB 191 Part-Time Cooperative Education 1: Web & Multimedia Design

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### WEB 192 Part-Time Cooperative Education 2: Web & Multimedia Design

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 191

### WEB 193 Part-Time Cooperative Education 3: Web & Multimedia Design

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 192

### WEB 194 Part-Time Cooperative Education 4: Web & Multimedia Design

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 193

### WEB 195 Part-Time Cooperative Education 5: Web & Multimedia Design

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 194

**WEB 196 Part-Time Cooperative Education 6: Web & Multimedia Design****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 195

**WEB 200 Web Design Portfolio Review****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An assessment of skills required to enter upper-level courses in the Web & Multimedia Design program, including a technical skills exam and presenting a portfolio to a panel of evaluators. Students receive grades of Satisfactory or Unsatisfactory, and must pass the course to be eligible for cooperative education assignments. Those who do not pass may make one additional attempt.

Prerequisites: Web Multimedia Design Program Chair consent

**WEB 220 Animated and Interactive Web Content****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on professional techniques for using Adobe Flash. Topics include: animating, creating and manipulating images; and creating interactive websites and menus.

Prerequisites: WEB 111 (minimum grade C)

**WEB 225 Applied 2D Graphics: Web Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applications of 2D graphics techniques for raster-based and vector-based software, focusing on creating 2D graphics for web and multimedia applications.

Prerequisites: GRD 120 and GRD 130 and WEB 111 (minimum grade C for all)

**WEB 230 Applied 2D Graphics: Web Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applications of 2D graphics techniques for raster-based and vector-based software, focusing on creating 2D graphics for web and multimedia applications.

Prerequisites: GRD 120 and GRD 130 and WEB 111 (minimum grade C for all)

**WEB 235 Responsive Web Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on designing websites using a responsive web design approach to provide optimal viewing experiences across a range of devices including mobile phones, tablets, laptop and desktop computers. Topics include: fluid proportion-based grids, flexible images, and CSS3 media queries.

Prerequisites: WEB 112

**WEB 240 Web Development: Advanced Topics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on current concepts and techniques used in web design. Topics include: content management systems, and mobile applications.

Prerequisites: WEB 112 (minimum grade C)

**WEB 285 Web & Multimedia Design Independent Final Project****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work individually or with an approved team from concept to completion on a web and multimedia design project, and present the results to reviewers. Topic and outline must be presented to a jury of instructors, and approved prior to course registration. Students who do not successfully complete the course may make one additional attempt.

Prerequisites: Web Design Program Chair consent, and minimum 3.0 GPA

Instructor Consent Required

**WEB 290 Web & Multimedia Design Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work in structured teams to develop web and multimedia deliverables for an external client, and present the results to reviewers. Activities include audience, client, and market analysis; and all phases of production of materials. Students who do not successfully complete the course may make one additional attempt.

Prerequisites: Web Multimedia Design Program Chair consent, and minimum 2.5 GPA

Instructor Consent Required

**WEB 291 Full-Time Cooperative Education 1: Web & Multimedia Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**WEB 292 Full-Time Cooperative Education 2: Web & Multimedia Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 291

**WEB 293 Full-Time Cooperative Education 3: Web & Multimedia Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 292

**WEB 294 Internship 1: Web Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MID 190, WEB 200

**WEB 295 Internship 2: Web Design**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 294

## Networking and Support Systems

The Networking and Support Systems programs at Cincinnati State prepare students to successfully install, maintain, and support networking systems for industries, businesses, and other organizations.

Numerous entities—from large corporations to individual households—rely on computer networks to enhance production and complete daily tasks. The associate's degree programs offered by the Networking and Support Systems department provide areas of specialization for students interested in a computer networking career.

Networking and Support Systems programs include four associate's degree programs, and a technical certificate:

- **Computer Network Administration (NETA)**
- **Computer Network Engineering Technology (NETC)**
- **Computer Network Engineering Technology - Cyber-Security Major (NETCCS)**
- **Computer Support and Administration Technology (CSA)**
- **Computer Network Administration Certificate (NETAC)**

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

## Computer Network Administration (NETA & NETAC)

### Computer Network Administration (NETA)

Students in the Computer Network Administration program learn to plan, implement, analyze, and administer local, campus-wide, metropolitan, and wide-area networks. Students develop expertise in all facets of networking including operating systems, network hardware, server administration, and virtualization.

Graduates earn an Associate of Applied Science degree and are proficient with server setup and configuration, network security measures, messaging, network wiring, and network help desk operations. In addition, the program prepares students to qualify for several technical certifications.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Computer Network Administration Certificate (NETAC)

The Computer Network Administration Certificate prepares students to implement and administer both client-based and server-based systems.

Students develop expertise in computer operating systems, network operating systems, server administration, and server configuration.

In addition, the certificate prepares students to qualify for Microsoft technical certification.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Computer Network Administration (NETA)

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
IT 105	Information Technology Concepts ( <b>B</b> )	2	3	3
IT 115	Operating Systems Administration 1 ( <b>B</b> )	2	3	3
NETA 120	Computer Virtualization ( <b>T</b> )	2	3	3
CIT 190	Career Preparation: Engineering and Information Technologies ( <b>B</b> )	1	0	1
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
<b>Semester 2</b>				
IT 116	Operating Systems Administration 2 ( <b>B</b> )	2	3	3
NETA 115	Networking Essentials ( <b>T</b> )	2	3	3
NETA 155	Server Administration 1 ( <b>T</b> )	3	2	4
ENG 1XX	English Composition Elective ( <b>G</b> )	3	0	3
MAT 105	Quantitative Reasoning ( <b>G</b> )	2	2	3
<b>Semester 3</b>				
NETA 291	Full-Time Cooperative Education 1: Computer Network Administration ( <b>T</b> )	1	40	2
<b>Semester 4</b>				
NETA 135	Information Technology Support Desk Concepts ( <b>T</b> )	3	2	4
NETA 256	Server Administration 2 ( <b>T</b> )	3	2	4
NETA 265	Server Configuration ( <b>T</b> )	3	2	4

XXX XXX		3	0	3
Social/ Behavioral Science Elective (G)				
<b>Semester 5</b>				
NETA 125	Open Source Operating Systems and Applications ( T)	2	3	3
NETA 290	Networking and Computer Support Capstone ( T)	1	6	4
COMM 110	Public Speaking ( B)	3	0	3
XXX XXX		3	0	3
Arts/ Humanities Elective (G)				
XXX XXX		3	0	3
Business Elective (B)				
<b>Semester 6</b>				
NETA 292	Full-Time Cooperative Education 2: Computer Network Administration ( T)	1	40	2
Total Credits:		49	114	65

### Electives

#### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

#### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

#### Social/Behavioral Science Elective

Any ECO, GEO, HST, LBR, POL, PSY, SOC	3
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#### Arts/Humanities Elective

Any ART, CULT, FRN, SPN, LIT, MUS, PHI, REL, THE, or COMM 130	3
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#### Business Elective

ACC 101	Financial Accounting	3
LAW 101	Business Law	3
MGT 101	Principles of Management	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio

Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Computer Network Administration Certificate (NETAC)

Semester 1		Lec	Lat	Credits
IT 105	Information Technology Concepts	2	3	3
IT 115	Operating Systems Administration 1	2	3	3
NETA 120	Computer Virtualization	2	3	3
Semester 2				
NETA 155	Server Administration 1	3	2	4
IT 116	Operating Systems Administration 2	2	3	3
NETA 115	Networking Essentials	2	3	3
Semester 3				
NETA 135	Information Technology Support Desk Concepts	3	2	4
NETA 256	Server Administration 2	3	2	4
NETA 265	Server Configuration	3	2	4
Total Credits:		22	23	31

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Computer Network Administration (NETA)

- Ability to use resources to solve technical problems involving operating systems and server software.
- Ability to manage multiple operating systems, systems software, and network services.
- Ability to understand compliance issues and corporate and federal compliance regulations.
- Ability to function independently and as a member of a team.
- Ability to effectively communicate technical information verbally, in writing, and in presentations.
- Ability to manage multiple tasks and deadlines.
- Ability to demonstrate professionalism in the workplace and maintain user/client confidentiality.

### Faculty

#### Program Chair/Advisor

Tomie Gartland, BA, AS  
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## Co-op Coordinator

Noelle Grome, ME, MA  
noelle.grome@cincinnatiastate.edu

## Advisor

Bernell Prince, BS  
bernell.prince@cincinnatiastate.edu

## Courses

### NETA 115 Networking Essentials

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on managing operating systems in a network environment. Topics include: topologies and technologies; network hardware; protocols; network standards; network problem solving; and network administration, support, and security.

Prerequisites: IT 115

### NETA 120 Computer Virtualization

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operating systems in a virtual environment. Topics include: fundamentals of virtualization, advantages of using virtual software, and installing virtual systems.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

### NETA 125 Open Source Operating Systems and Applications

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the open source movement and essential operating systems and applications. Topics include: history of open source, the Linux operating system, file systems, and troubleshooting.

Prerequisites: IT 115

### NETA 135 Information Technology Support Desk Concepts

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamental operations and procedures of an information technology support desk. Topics include: product evaluation, roles and responsibilities, support management, needs assessment, and troubleshooting.

Prerequisites: IT 115

### NETA 155 Server Administration 1

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on user administration for Microsoft Windows server technology. Topics include: installing servers, configuring server roles, deploying core network services, administering Active Directory, managing remote servers, and creating and managing group policy. This course prepares students for a Microsoft Certification exam.

Prerequisites: NETC 121 or IT 115 (minimum grade C for both)

### NETA 191 Part-Time Cooperative Education 1: Computer Network Administration

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

### NETA 192 Part-Time Cooperative Education 2: Computer Network Administration

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 191

### NETA 193 Part-Time Cooperative Education 3: Computer Network Administration

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 192

### NETA 194 Part-Time Cooperative Education 4: Computer Network Administration

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 193

### NETA 195 Part-Time Cooperative Education 5: Computer Network Administration

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 194

### NETA 196 Part-Time Cooperative Education 6: Computer Network Administration

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 195

### NETA 256 Server Administration 2

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of NETA 155. Topics include: deploying, managing, and maintaining servers; configuring file and print services; configuring Network Policy Server infrastructure; configuring and managing Active Directory; and managing group policy. This course prepares students for a Microsoft Certification exam.

Prerequisites: NETA 155 (minimum grade C)

**NETA 265 Server Configuration****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on configuration for Microsoft Windows server technology. Topics include: configuring file and storage solutions, network services, Active Directory infrastructure, and access solutions; and business continuity and disaster recovery. This course prepares students for a Microsoft Certification exam.

Prerequisites: NETA 155 (minimum grade C)

**NETA 290 Networking and Computer Support Capstone****4 Credits. 1 Lecture Hour. 6 Lab Hours.**

Students demonstrate knowledge and skills while completing a project related to the Computer Network Administration and Computer Support and Administration programs. Topics include: analyzing and designing appropriate network architecture, developing business network solutions, and installing and implementing networks.

Prerequisites: NETA 256 or CSA 112

**NETA 291 Full-Time Cooperative Education 1: Computer Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**NETA 292 Full-Time Cooperative Education 2: Computer Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 291

**NETA 293 Full-Time Cooperative Education 3: Computer Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 292

**NETA 294 Internship 1: Computer Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**NETA 295 Internship 2: Computer Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 294

# Computer Network Administration - Computer Support Major (CSA)

## Computer Network Administration - Computer Support Major (CSA)

Computer Support and Administration program graduates are troubleshooters responsible for interpreting problems and providing technical support assistance and advice to customers.

Students learn to install, set up, and maintain hardware and software for microcomputers. Courses include computer operating systems, data communications, networking, and support center management. Graduates earn an Associate of Applied Science degree.

Career opportunities for program graduates are diverse, for several reasons:

- The sheer number of computers and users in business and industry creates ever-changing work environments and challenges.
- Also, gaining assistance in using software effectively is generally a high priority for businesses and users.
- Finally, the graduate's knowledge and skills are applicable to a class of computers, rather than to a particular company, so graduates have significant job mobility as well as opportunities for entrepreneurial work.

Job titles for Computer Support and Administration graduates include senior PC support technician, PC system coordinator, or helpdesk manager.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

## Computer Network Administration - Computer Support Major (CSA)

Semester 1		Lec	Lat	Credits
CIT 190	Career Preparation: Engineering and Information Technologies ( <b>B</b> )	1	0	1
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
IT 105	Information Technology Concepts ( <b>B</b> )	2	3	3
IT 115	Operating Systems Administration 1 ( <b>B</b> )	2	3	3
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
NETA 120	Computer Virtualization ( <b>T</b> )	2	3	3
Semester 2				
CSA 111	Computer Repair 1 ( <b>T</b> )	2	3	3



ENG 10X English Composition Elective (G)		3	0	3
NETA 115	Networking Essentials ( T)	2	3	3
IT 116	Operating Systems Administration 2 ( T)	2	3	3
MAT 105	Quantitative Reasoning	2	2	3
<b>Semester 3</b>				
CSA 291	Full-Time Cooperative Education 1: Computer Support and Administration ( T)	1	40	2
<b>Semester 4</b>				
CSA 112	Computer Repair 2 ( T)	2	3	3
NETA 135	Information Technology Support Desk Concepts ( T)	3	2	4
NETA 155	Server Administration 1 ( T)	3	2	4
XXX XXX Social/ Behavioral Science Elective (G)		3	0	3
<b>Semester 5</b>				
CSA 213	Computer Repair 3 ( T)	2	2	3
NETA 290	Networking and Computer Support Capstone ( T)	1	6	4
NETA 125	Open Source Operating Systems and Applications ( T)	2	3	3
COMM 110	Public Speaking ( B)	3	0	3
XXX XXX Arts/ Humanities Elective (G)		3	0	3
<b>Semester 6</b>				
CSA 292	Full-Time Cooperative Education 2: Computer Support and Administration ( T)	1	40	2
Total Credits:		46	118	63

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Arts/Humanities Elective

Any ART, CULT, FRN, LIT, MUS, PHI, REL, SPN, THE, or COMM 130		3
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### Social/Behavioral Science Elective

Any ECO, GEO, HST, LBR, POL, PSY, SOC

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

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- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Computer Support and Administration Technology (CSA)

- Ability to use resources to solve technical problems involving operating systems and hardware components.
- Ability to manage multiple hardware components and operating systems.
- Ability to understand compliance issues and corporate and federal compliance regulations.
- Ability to function independently and as a member of a team.
- Ability to effectively communicate technical information verbally, in writing, and in presentations.
- Ability to manage multiple tasks and deadlines.
- Ability to demonstrate professionalism in the workplace and maintain user/client confidentiality.

## Faculty

### Program Chair/Advisor

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### Co-op Coordinator

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### Advisor

Bernell Prince, BS  
bernell.prince@cincinnatiastate.edu

## Courses

### CSA 111 Computer Repair 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on theory and operation of computer systems. Topics include: operating systems, interface of operating systems and hardware, central processing unit (CPU) structures and evolution, bus structures, memory, data storage, input/output devices, motherboard structures, number systems, and USB/IEEE 1392 data transmission. Prerequisites: ENG 085 and MAT 093, or appropriate placements

**CSA 112 Computer Repair 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of CSA 111. Topics include: examining the board/component level of computer systems while using diagnostic software and instrumentation to isolate failures and restore systems to normal operation.

Prerequisites: CSA 111

**CSA 191 Part-Time Cooperative Education 1: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**CSA 192 Part-Time Cooperative Education 2: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 191

**CSA 193 Part-Time Cooperative Education 3: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 192

**CSA 194 Part-Time Cooperative Education 4: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 193

**CSA 195 Part-Time Cooperative Education 5: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 194

**CSA 196 Part-Time Cooperative Education 6: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 195

**CSA 213 Computer Repair 3****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of CSA 112. Topics include: specialized hardware, peripheral devices, system optimization, driver installation, internet connectivity, and printer maintenance.

Prerequisites: CSA 112

**CSA 290 Computer Support and Administration Capstone****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

Students work in teams to complete a design project using analog and digital concepts, and prepare a presentation of results. Topics include: design theory, feasibility study, project economics, team building, and effective presentations.

Prerequisites: CSA 112, and NETA 115 or NETC 121

**CSA 291 Full-Time Cooperative Education 1: Computer Support and Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**CSA 292 Full-Time Cooperative Education 2: Computer Support and Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 291

**CSA 293 Full-Time Cooperative Education 3: Computer Support and Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 292

**CSA 294 Internship 1: Computer Support and Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**CSA 295 Internship 2: Computer Support and Administration**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 294

## Computer Network Engineering Technology (NETC)

### Computer Network Engineering Technology (NETC)

The Computer Network Engineering Technology program emphasizes the design, installation, and support of an organization's local area network (LAN), wide area network (WAN), network segment, internet, or intranet system.

Graduates of the program earn an Associate of Applied Science degree and are prepared to provide day-to-day, on-site administrative support for a variety of work environments, including professional offices, small businesses, schools, government agencies, and large corporations.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

### Computer Network Engineering Technology (NETC)

Semester 1		Lec	Lat	Credits
NETC 121	Network Communications 1 ( B )	2	2	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
MAT 125	Algebra and Trigonometry ( B )	3	2	4
ENG 101	English Composition 1 ( G )	3	0	3
EET 131	Circuit Analysis 1 ( T )	3	2	4
CIT 190	Career Preparation: Engineering and Information Technologies ( T )	1	0	1
Semester 2				
MAT 126	Functions and Calculus ( G )	3	2	4
EET 121	Digital Systems 1 ( T )	2	2	3
EET 132	Circuit Analysis 2 ( T )	3	2	4
NETA 155	Server Administration 1 ( B )	3	2	4
Semester 3				
XXX XXX	Cooperative Education or Transfer Elective 1 ( T )	1	40	2
Semester 4				

PHY 151	Physics 1: Algebra and Trigonometry-Based ( B )	3	3	4
NETC 122	Network Communications 2 ( T )	2	2	3
NETC 230	Network Security Design ( T )	2	2	3
EET 122	Digital Systems 2 ( T )	2	3	3
Semester 5				
NETC 240	Emerging Topics in Computer Network Engineering Technology ( T )	2	3	3
NETC 290	Computer Network Engineering Technology Capstone Project ( T )	2	2	3
ENG 10X	English Composition Elective ( G )	3	0	3
XXX XXX	Arts/ Humanities or Social/ Behavioral Science Elective ( G )	3	0	3
Semester 6				
XXX XXX	Cooperative Education or Transfer Elective 2 ( T )	1	40	2
Total Credits:		45	109	60

### Electives

#### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

#### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

#### Arts/Humanities or Social/Behavioral Science Elective

PHI 110	Ethics	3
PSY 110	Introduction to Psychology	3
SOC 105	Introduction to Sociology	3

#### Cooperative Education or Transfer Electives \*

NETC 291	Full-Time Cooperative Education 1: Computer Network Engineering Technology	2
NETC 292	Full-Time Cooperative Education 2: Computer Network Engineering Technology	2
EET 251		4
EMET 240	Programmable Logic Controllers, Motors, Motor Controls, and Kinematics	3
EMET 250		3

IT 101	Programming 1	3
IT 110	HTML with CSS and JavaScript	3
IT 111	Database Design and SQL 1	3
IT 115	Operating Systems Administration 1	3
IT 161	Java Programming 1	3

\* Program Chair approval is required for students planning to take a Transfer Elective course rather than participate in cooperative education.

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G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Computer Network Engineering Technology (NETC)

- Utilize technical, ethical, and interpersonal skills to effectively work in a team.
- Demonstrate the ability to configure and troubleshoot network systems.
- Develop and implement solutions for networking and security problems, balancing business concerns, technical issues, and security.
- Demonstrate a commitment to timeliness, quality, and continuous improvement.
- Explain networking protocols and their hierarchical relationship in both hardware and software. Compare protocol models and select appropriate protocols for a particular design.
- Demonstrate adequate preparation for career employment and/or pursuit of a baccalaureate degree.
- Effectively communicate technical information verbally, in writing, and in presentations.
- Document network systems.
- Explain concepts and theories of networking and apply them to various situations; classifying networks, analyzing performance, and implementing new technologies.

## Faculty

### Program Chair/Advisor

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### Co-op Coordinator

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## Advisor

Bernell Prince, BS  
bernell.prince@cincinnatiastate.edu

## Courses

### NETC 121 Network Communications 1

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on computer networks and network operating systems. Topics include: network topology, local and wide area networks, connecting devices to networks, basic network software and file sharing, and problem solving. This course helps students prepare for the CompTIA Network+ exam.

Prerequisites: ENG 085, and MAT 115 or MAT 124, or appropriate placements

### NETC 122 Network Communications 2

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of NETC 121. Topics include: routing protocols, spanning tree, VLANs and network security, and network address translation.

Prerequisites: NETC 121

### NETC 170 Governance and Management of IT

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on frameworks for organizational governance of information technology. Topics include: IT portfolio management, risk and compliance, and business continuity planning and impact analysis.

Prerequisites: NETC 121

### NETC 180 Information Risk Management

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on methods for analyzing and classifying organizational data to maintain information security. Topics include: information ownership; information threats, vulnerabilities, and exposure; and investigating and assessing risk.

Prerequisites: NETC 122 and NETA 155

### NETC 191 Part-Time Cooperative Education 1: Computer Network Engineering Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### NETC 192 Part-Time Cooperative Education 2: Computer Network Engineering Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 191

**NETC 193 Part-Time Cooperative Education 3: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 192

**NETC 194 Part-Time Cooperative Education 4: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 193

**NETC 195 Part-Time Cooperative Education 5: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 194

**NETC 196 Part-Time Cooperative Education 6: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 195

**NETC 230 Network Security Design****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on developing security to protect business systems. Topics include: design and testing of various layered network security software and hardware.

Prerequisites: NETA 155 and NETC 121

Corequisites: NETC 122

**NETC 240 Emerging Topics in Computer Network Engineering Technology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on current industry needs related to Computer Network Engineering Technology. Topics include: voice-over-internet protocol (VoIP), cloud computing, and Linux.

Prerequisites: NETC 122 and NETA 155

**NETC 280 IT Documentation****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on documentation of IT systems focusing on general regulatory compliance requirements. Students use Microsoft Visio for laboratory activities.

Prerequisites: NETC 170, ENG 101

**NETC 290 Computer Network Engineering Technology Capstone Project****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

Students work in teams to design and build network solutions while demonstrating knowledge and skills gained in the Computer Network Engineering Technology program.

Prerequisites: NETC 122, NETC 230, NETB 155, ENG 102

**NETC 291 Full-Time Cooperative Education 1: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**NETC 292 Full-Time Cooperative Education 2: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 291

**NETC 293 Full-Time Cooperative Education 3: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 292

**NETC 294 Internship 1: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**NETC 295 Internship 2: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 294

## Computer Network Engineering Technology - Cyber-Security Major (NETCCS)

### Computer Network Engineering Technology - Cyber-Security Major (NETCCS)

The Computer Network Engineering Technology - Cyber-Security Major combines technical knowledge and skills with understanding

of security planning, risk mitigation, and related documentation requirements.

Graduates earn an Associate of Applied Science degree and are prepared to assist organizations that must comply with federal or state government regulations related to information security, or must meet payment card industry requirements to safeguard customer information or other sensitive data.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Computer Network Engineering Technology - Cyber-Security Major (NETCCS)

Semester 1		Lec	Lat	Credits
NETC 121	Network Communications 1 ( B )	2	2	3
MAT 131	Statistics 1 ( G )	2	2	3
ENG 101	English Composition 1 ( G )	3	0	3
MGT 130	Project Management ( B )	3	0	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
CIT 190	Career Preparation: Engineering and Information Technologies ( T )	1	0	1
Semester 2				
NETC 122	Network Communications 2 ( T )	2	2	3
NETC 170	Governance and Management of IT ( B )	3	3	4
NETA 155	Server Administration 1 ( B )	3	2	4
XXX XXX	Arts/ Humanities or Social/ Behavioral Science Elective ( G )	3	0	3
Semester 3				
	Cooperative Education or Transfer Elective 1 ( T )	1	40	2
Semester 4				
NETC 180	Information Risk Management ( T )	3	3	4
NETC 230	Network Security Design ( T )	2	2	3
COMM 110	Public Speaking ( B )	3	0	3
ENG 10X	English Composition Elective ( G )	3	0	3

PHY XXX	Physics Elective ( G )	2	2	3
Semester 5				
NETC 240	Emerging Topics in Computer Network Engineering Technology ( T )	2	3	3
NETC 280	IT Documentation ( T )	3	3	4
NETC 290	Computer Network Engineering Technology Capstone Project ( T )	2	2	3
IT 215	Scripting ( T )	2	2	3
Semester 6				
	Cooperative Education or Transfer Elective 2 ( T )	1	40	2
Total Credits:		47	108	61

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Arts/Humanities or Social/Behavioral Science Elective

PHI 110	Ethics	3
ECO 105	Principles of Microeconomics	3
PSY 110	Introduction to Psychology	3
SOC 105	Introduction to Sociology	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Physics Elective

PHY 150	Introduction to Physics	3
PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5

### Cooperative Education or Transfer Electives \*

NETC 291	Full-Time Cooperative Education 1: Computer Network Engineering Technology	2
NETC 292	Full-Time Cooperative Education 2: Computer Network Engineering Technology	2
IT 101	Programming 1	3
IT 110	HTML with CSS and JavaScript	3
IT 111	Database Design and SQL 1	3
IT 115	Operating Systems Administration 1	3
IT 161	Java Programming 1	3

\* Program Chair approval is required for students planning to take a Transfer Elective course rather than participate in cooperative education.

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G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Computer Network Engineering Technology - Cyber-Security Major (NETCCS)

- Utilize technical, ethical, and interpersonal skills to effectively work in a team.
- Demonstrate the ability to configure and troubleshoot network systems.
- Develop and implement solutions for networking and security problems, balancing business concerns, technical issues, and security.
- Demonstrate a commitment to timeliness, quality, and continuous improvement.
- Explain networking protocols and their hierarchical relationship in both hardware and software. Compare protocol models and select appropriate protocols for a particular design.
- Demonstrate adequate preparation for career employment and/or pursuit of a baccalaureate degree.
- Effectively communicate technical information verbally, in writing, and in presentations.
- Document network systems.
- Explain concepts and theories of networking and apply them to various situations; classifying networks, analyzing performance ,and implementing new technologies.

## Faculty

### Program Chair/Advisor

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### Co-op Coordinator

Noelle Grome, ME, MA  
noelle.grome@cincinnatiastate.edu

### Advisor

Bernell Prince, BS  
bernell.prince@cincinnatiastate.edu

## Courses

### NETC 121 Network Communications 1 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on computer networks and network operating systems. Topics include: network topology, local and wide area networks, connecting devices to networks, basic network software and file sharing, and problem solving. This course helps students prepare for the CompTIA Network+ exam.

Prerequisites: ENG 085, and MAT 115 or MAT 124, or appropriate placements

### NETC 122 Network Communications 2 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A continuation of NETC 121. Topics include: routing protocols, spanning tree, VLANs and network security, and network address translation.

Prerequisites: NETC 121

### NETC 170 Governance and Management of IT 4 Credits. 3 Lecture Hours. 3 Lab Hours.

A course on frameworks for organizational governance of information technology. Topics include: IT portfolio management, risk and compliance, and business continuity planning and impact analysis.

Prerequisites: NETC 121

### NETC 180 Information Risk Management 4 Credits. 3 Lecture Hours. 3 Lab Hours.

A course on methods for analyzing and classifying organizational data to maintain information security. Topics include: information ownership; information threats, vulnerabilities, and exposure; and investigating and assessing risk.

Prerequisites: NETC 122 and NETA 155

### NETC 191 Part-Time Cooperative Education 1: Computer Network Engineering Technology 1 Credit. 1 Lecture Hour. 20 Lab Hours.

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### NETC 192 Part-Time Cooperative Education 2: Computer Network Engineering Technology 1 Credit. 1 Lecture Hour. 20 Lab Hours.

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 191

### NETC 193 Part-Time Cooperative Education 3: Computer Network Engineering Technology 1 Credit. 1 Lecture Hour. 20 Lab Hours.

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 192

**NETC 194 Part-Time Cooperative Education 4: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 193

**NETC 195 Part-Time Cooperative Education 5: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 194

**NETC 196 Part-Time Cooperative Education 6: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 195

**NETC 230 Network Security Design****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on developing security to protect business systems. Topics include: design and testing of various layered network security software and hardware.

Prerequisites: NETA 155 and NETC 121

Corequisites: NETC 122

**NETC 240 Emerging Topics in Computer Network Engineering Technology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on current industry needs related to Computer Network Engineering Technology. Topics include: voice-over-internet protocol (VoIP), cloud computing, and Linux.

Prerequisites: NETC 122 and NETA 155

**NETC 280 IT Documentation****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on documentation of IT systems focusing on general regulatory compliance requirements. Students use Microsoft Visio for laboratory activities.

Prerequisites: NETC 170, ENG 101

**NETC 290 Computer Network Engineering Technology Capstone Project****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

Students work in teams to design and build network solutions while demonstrating knowledge and skills gained in the Computer Network Engineering Technology program.

Prerequisites: NETC 122, NETC 230, NETB 155, ENG 102

**NETC 291 Full-Time Cooperative Education 1: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**NETC 292 Full-Time Cooperative Education 2: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 291

**NETC 293 Full-Time Cooperative Education 3: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 292

**NETC 294 Internship 1: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**NETC 295 Internship 2: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 294

## Pre-Engineering (PENG)

### Pre-Engineering (PENG)

The Pre-Engineering program provides students with the academic foundation needed for transfer to a bachelor's degree program in engineering science, such as electrical, chemical, civil, mechanical, computer, or environmental engineering.

Students earn an Associate of Science degree and are prepared to enter their bachelor's degree program with about half of the required credits already completed.

Students must consult with their academic advisor before choosing electives, to ensure that elective courses meet the requirements of the college or university where they will complete their bachelor's degree.



Students must meet the requirements set by the institution they will transfer to. Completing the Pre-Engineering degree does not guarantee acceptance at another college or university.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

## Pre-Engineering (PENG)

Semester 1		Lec	Lat	Credits
CHE 121	General Chemistry 1	4	0	4
CHE 131	General Chemistry 1 Lab	0	3	1
ENG 101	English Composition 1	3	0	3
FYE 1XX	First Year Experience Elective	1	0	1
ENGR 111	Introduction to Engineering 1	2	2	3
Semester 2				
PHY 201	Physics 1: Calculus-Based	4	2	5
MAT 251	Calculus 1	5	0	5
ENG 10X	English Composition Elective	3	0	3
ENGR 112	Introduction to Engineering 2	2	2	3
Semester 3				
MAT 252	Calculus 2	5	0	5
COMM 110	Public Speaking	3	0	3
XXX XXX	Technical Elective 1	2	3	3
XXX XXX	Arts/Humanities Elective 1	3	0	3
Semester 4				
XXX XXX	Technical Elective 2	2	2	3
XXX XXX	Transfer Module Math/Science Elective	5	0	5
XXX XXX	Social Science Elective	3	0	3
XXX XXX	Arts/Humanities Elective 2	3	0	3

Semester 5				
XXX XXX	Technical Elective 3	2	3	3
XXX XXX	Technical Elective 4	1	40	2
HST XXX	History Elective	3	0	3
Total Credits:		56	57	64

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Arts/Humanities Elective (select two courses)

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE	6
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### Transfer Module Math/Science Elective

MAT 253	Calculus 3	5
CHE 122 & CHE 132	General Chemistry 2 and General Chemistry 2 Lab	5
CHE 201 & CHE 211	Organic Chemistry 1 and Organic Chemistry 1 Lab	5
CHE 202 & CHE 212	Organic Chemistry 2 and Organic Chemistry 2 Lab	5
PHY 202	Physics 2: Calculus-Based	5
<b>Technical Electives<sup>1</sup></b>		<b>3</b>

MAT 253	Calculus 3	5
CET 105	Introduction to Surveying	3
MET 111	Manufacturing Processes 1	3
MET 131	MET Computer Aided Drafting 1	3
MET 140	Engineering Materials	3
EET 121	Digital Systems 1	3
EET 131	Circuit Analysis 1	4
EET 132	Circuit Analysis 2	4
CHE 122 & CHE 132	General Chemistry 2 and General Chemistry 2 Lab	5
CHE 201 & CHE 211	Organic Chemistry 1 and Organic Chemistry 1 Lab	5
CHE 202 & CHE 212	Organic Chemistry 2 and Organic Chemistry 2 Lab	5
PHY 202	Physics 2: Calculus-Based	5
CET 291	Full-Time Cooperative Education 1: Civil Engineering Technology <sup>2</sup>	2
MET 291	Full-Time Cooperative Education 1: Mechanical Engineering Technology <sup>2</sup>	2

EET 291	Full-Time Cooperative Education 1: Electronics Engineering Technology <sup>2</sup>	2
EMET 291	Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology <sup>2</sup>	2
ENGR 200	Engineering Statics (Calculus Based)	3
<b>Social Science Elective (select one course)</b>		
Any Transfer Module course from ECO, GEO, LBR, POL, PSY, SOC		3
<b>History Elective (select one course)</b>		
Any Transfer Module course from HST		3

<sup>1</sup> Program Chair consent required for Technical Electives. Not all courses are offered every semester. Since Technical Electives vary by transfer school and discipline, students must meet with a Pre-Engineering advisor before registering for courses.

<sup>2</sup> Only one full-time co-op course is permitted. Co-op credits may not transfer to bachelor's degree programs.

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Pre-Engineering (PENG)

- Ability to apply knowledge of mathematics, science, and engineering.
- Ability to design and conduct experiments, as well as to analyze and interpret data.
- Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- Ability to function on multidisciplinary teams.
- Ability to identify, formulate, and solve engineering problems.
- Understanding of professional and ethical responsibilities.
- Ability to communicate effectively.
- Understanding of the impact of engineering solutions in a global, economic, environmental, and societal context.
- Recognition of the need for and ability to engage in life-long learning.
- Knowledge of contemporary issues.
- Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

## Faculty

### Program Chair/Advisor

George Armstrong, PE, PS, BS  
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### Advisors

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Carole Womeldorf, PhD

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# Welding and Welding Certificate (WLD & WLDC)

## Welding (WLD)

The Welding associate's degree prepares students for high-demand employment opportunities in industries such as manufacturing, construction, automotive, aerospace, and energy piping.

Students gain hands-on skill training in oxyacetylene welding (OAW), oxyfuel cutting (OFC), shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux core arc welding (FCAW), and gas tungsten arc welding (GTAW). Students also develop knowledge and skills in other welding areas including metal fabrication, visual inspection, and blueprint reading.

The associate's degree program includes cooperative education work opportunities as well.

The Welding associate's degree curriculum is aligned with the American Welding Society's SENSE program.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnatiastate.edu/academics/admission/>) section of the College website.

## Welding Certificate (WLDC)

The Welding Certificate prepares students for immediate employment in organizations where welders are in demand, including manufacturing, construction, automotive, and energy industries. The program includes hands-on practice in a variety of welding processes as well as metal fabrication, testing, and quality control.

Graduates are prepared to take certification tests offered by the American Welding Society.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnatiastate.edu/academics/admission/>) section of the College website.

## Welding (WLD)

Semester 1		Lec	Lat	Credits
WLD 100	Fundamentals of Welding ( B)	2	3	3
WLD 105	Print Reading and Weld Design ( B)	2	2	3
FYE 1XX	First Year Experience Elective ( B)	1	0	1
WLD 115	Gas Metal Arc Welding and Flux Cored Arc Welding ( B)	2	6	4
ENG 101	English Composition 1 ( G)	3	0	3
Semester 2				

WLD 111	Shielded Metal Arc Welding 1 ( <b>B</b> )	2	6	4
MAT 105	Quantitative Reasoning ( <b>G</b> )	2	2	3
PSY 10X	Psychology Elective ( <b>G</b> )	3	0	3
MET 111	Manufacturing Processes 1 ( <b>T</b> )	2	3	3
<b>Semester 3</b>				
WLD 260	Weldability of Metals ( <b>T</b> )	2	2	3
MET 131	MET Computer Aided Drafting 1 ( <b>T</b> )	2	3	3
ENG 10X	English Elective ( <b>G</b> )	3	0	3
XXX XXX	Arts/ Humanities or Natural Science Elective ( <b>G</b> )	3	0	3
<b>Semester 4</b>				
WLD 210	Gas Tungsten Arc Welding ( <b>T</b> )	2	6	4
WLD 231	Pipe Welding 1 ( <b>T</b> )	2	6	4
CIT 105	OSHA 10 General Industry Safety ( <b>T</b> )	1	0	1
XXX XXX	Welding Technical Elective ( <b>T</b> )	2	2	3
<b>Semester 5</b>				
WLD 220	Metal Fabrication ( <b>T</b> )	2	3	3
WLD 291	Full-Time Cooperative Education 1: Welding ( <b>T</b> )	1	40	2
<b>Semester 6</b>				
WLD 292	Full-Time Cooperative Education 2: Welding ( <b>T</b> )	1	40	2
WLD 250	Welding Inspection and Codes ( <b>T</b> )	2	3	3
Total Credits:		42	127	61

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Psychology Elective

PSY 100	Applied Psychology: Human Relations	3
PSY 102	Applied Psychology: Stress Management	3
PSY 110	Introduction to Psychology	3

### Arts/Humanities Elective (take one course from either Arts/ Humanities or Natural Science)

Any ART, FRN, LIT, MUS, PHI, POL, REL, SPN, THE

### Natural Sciences Elective (take one course from either Arts/ Humanities or Natural Sciences)

Any CHE, EVS, PHY, PSC

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
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ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3
<b>Welding Technical Elective (select 1 course)</b>		
EET 101	Electronic Fundamentals 1	3
MET 112	Manufacturing Processes 2	3
MET 132	MET Computer Aided Drafting 2	3
MET 140	Engineering Materials	3
WLD 112	Shielded Metal Arc Welding 2	4
WLD 232	Pipe Welding 2	4

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Welding Certificate (WLDC)

		Lec	Lab	Credits
<b>Semester 1</b>				
WLD 100	Fundamentals of Welding	2	3	3
WLD 105	Print Reading and Weld Design	2	2	3
MAT 105	Quantitative Reasoning	2	2	3
<b>Semester 2</b>				
WLD 111	Shielded Metal Arc Welding 1	2	6	4
MET 111	Manufacturing Processes 1	2	3	3
MET 131	MET Computer Aided Drafting 1	2	3	3
<b>Semester 3</b>				
WLD 115	Gas Metal Arc Welding and Flux Cored Arc Welding	2	6	4
WLD 210	Gas Tungsten Arc Welding	2	6	4
CIT 105	OSHA 10 General Industry Safety	1	0	1
WLD XXX	Technical Elective	2	3	3
Total Credits:		19	34	31

## Electives

### Technical Elective

WLD 112	Shielded Metal Arc Welding 2	4
WLD 220	Metal Fabrication	3
WLD 260	Weldability of Metals	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Welding (WLD)

- Ability to weld in flat, horizontal, vertical, and overhead positions using the basic welding processes SMAW, GMAW, FCAW, and GTAW and pipe.
- Ability to perform metal layout processes.
- Ability to cut metals using oxyfuel, plasma, and arc cutting processes.
- Ability to apply the principles of metallurgy during the welding process.
- Ability to read and interpret basic blueprints and welding symbols to fabricate components.
- Ability to apply basic math and measurement to welding processes.
- Ability to follow industry safety practices.
- Successful completion of OSHA 10 credential.

## Faculty

### Program Chair/Advisor

Michael DeVore, PhD, PE  
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### Co-op Coordinator

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### Advisors

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Carole Womeldorf, PhD  
carole.womeldorf@cincinnatiatstate.edu

## Courses

### WLD 100 Fundamentals of Welding 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A course on fundamental principles of welding and joining processes. Topics include: oxy-acetylene welding and cutting techniques, plasma cutting, track cutting, and welding safety.  
Prerequisites: None

### WLD 101 Applied Welding Processes 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A course for non-welding majors who want to apply basic welding skills for art, hobbies, or other personal uses. Topics include welding safety, theory, operating principles, and equipment; and techniques for Gas Metal Arc Welding (GMAW), Shielded Metal Arc Welding (SMAW), and metal cutting processes.  
Prerequisites: None

### WLD 105 Print Reading and Weld Design 3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on interpreting various types of prints used in the welding industry. Topics include: print reading, measurements, types of welds and joints, welding symbols, technical math, and metric conversions.  
Prerequisites: MAT 093 or appropriate placement

### WLD 111 Shielded Metal Arc Welding 1 4 Credits. 2 Lecture Hours. 6 Lab Hours.

A course on techniques and operations associated with Shielded Metal Arc Welding (SMAW). Topics include: SMAW theory and operating principles, all-position welding of groove welds, and fillet welding using electrodes E6010, E6013, and E7018.  
Prerequisites: WLD 100

### WLD 112 Shielded Metal Arc Welding 2 4 Credits. 2 Lecture Hours. 6 Lab Hours.

A continuation of WLD 111 covering techniques and operations associated with Shielded Metal Arc Welding (SMAW). Topics include: all-positions open V-groove welds on plate, and fillet welds.  
Prerequisites: WLD 111

### WLD 115 Gas Metal Arc Welding and Flux Cored Arc Welding 4 Credits. 2 Lecture Hours. 6 Lab Hours.

A course on welding techniques associated with Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW). Topics include: theory, operating principles, equipment, and accessories; GMAW spray transfer techniques; and FCAW-G/GM (dual shielded) and FCAW-S (self-shielded) operations.  
Prerequisites: None  
Corequisites: WLD 100

### WLD 191 Part-Time Cooperative Education 1: Welding 1 Credit. 1 Lecture Hour. 20 Lab Hours.

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: WLD 115

### WLD 192 Part-Time Cooperative Education 2: Welding 1 Credit. 1 Lecture Hour. 20 Lab Hours.

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: WLD 191

### WLD 193 Part-Time Cooperative Education 3: Welding 1 Credit. 1 Lecture Hour. 20 Lab Hours.

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: WLD 192

**WLD 194 Part-Time Cooperative Education 4: Welding****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 193

**WLD 195 Part-Time Cooperative Education 5: Welding****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 194

**WLD 196 Part-Time Cooperative Education 6: Welding****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 195

**WLD 210 Gas Tungsten Arc Welding****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on techniques and operations associated with Gas Tungsten Arc Welding (GTAW). Topics include: GTAW theory, machines and set up, GTAW welding on non-ferrous and ferrous materials, and GTAW all-positions welding.

Prerequisites: WLD 100

**WLD 220 Metal Fabrication****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on metal fabrication techniques used in industry. Topics include: thermal cutting; oxy-fuel gas cutting; plasma arc cutting; basic metal fabrication, layout, assembly, and fit-up; and heat distortion effects.

Prerequisites: WLD 105 and WLD 115

**WLD 231 Pipe Welding 1****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on basic techniques associated with pipe welding operations. Topics include: pipe welding theory; pipe welding positions, layout, and preparation; and welding in the 2G and 5G positions with electrodes E6010 and E7018.

Prerequisites: WLD 111

**WLD 232 Pipe Welding 2****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A continuation of WLD 231 covering techniques associated with pipe welding operations. Topics include: pipe welding theory and nomenclature; safety; advanced pipe welding positions, layout, and preparation; and welding in the 5G and 6G positions using shielded metal arc welding (SMAW) and gas tungsten arc welding (GTAW) processes.

Prerequisites: WLD 231

**WLD 250 Welding Inspection and Codes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on welding techniques as applied to the American Welding Society Structural Steel Code D1.1. Topics include: weld discontinuities, visual examination, intermediate layers, completed welds, and required documentation. Students perform welder qualification tests and practice inspecting weld defects.

Prerequisites: WLD 111

**WLD 260 Weldability of Metals****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on properties of metals that affect weldability. Topics include: carbon steels, low alloy steels, tool steels, and stainless steels; cast iron and non-ferrous metals; processes including pre-heating, post-heating, annealing, normalizing, and hardening; repair welding techniques; and Rockwell hardness testing.

Prerequisites: WLD 100

**WLD 291 Full-Time Cooperative Education 1: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 100

**WLD 292 Full-Time Cooperative Education 2: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 291

**WLD 293 Full-Time Cooperative Education 3: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 292

**WLD 294 Internship 1: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 100

**WLD 295 Internship 2: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 294

## Health and Public Safety Division

**Division Office:** Health Professions Building Room 312, Clifton Campus

**Division Phone Number:** (513) 569-1670

The mission of the Health and Public Safety Division is to work collaboratively with its stakeholders to achieve excellence in allied health, nursing, public safety, and biology education that is accessible, student focused, and incorporates experiential learning.

The Health and Public Safety Division offers academically rigorous **associate's degree and certificate programs** that prepare students to earn professional credentials and seek employment in their chosen field of study immediately following graduation. These academic programs provide the theory and practice required for entry into a variety of nursing, allied health, and public safety careers.

The Health and Public Safety Division programs have accreditation or approval by national and state agencies when available, so graduates are qualified to sit for credentialing exams offered by certification or licensure organizations and agencies. Many programs have articulation agreements with bachelor's degree programs in the area to facilitate transfer of credits.

The **Biological Sciences department** offers a range of courses to meet the needs of health programs and to provide science requirements for students seeking the Associate of Science degree. When applicable, these courses can be used in transfer to bachelor's degree programs.

The **Fire and Emergency Medical Services (EMS)** programs offer associate's degrees, certificates, and special courses that allow participants to learn new skills or update the knowledge and skills needed to perform effectively on the job.

The Health and Public Safety Division works closely with hundreds of community partners such as area hospitals, health care agencies, fire service organizations, and other educational programs to provide clinical and experiential learning opportunities for health and public safety students.

## College Orientation

To prepare for success in college, degree-seeking students are required to complete a college First Year Experience (FYE) course within the first 12 credit hours taken at Cincinnati State.

## Entrance Competencies

To ensure success in academic studies in Health and Public Safety, entering students must meet established academic levels in mathematics, written communication skills, and reading comprehension. As part of the admission process, entering students meet with an academic advisor who may identify academic foundations-level classes to help the student reach needed levels. Preparatory classes are available year-round, and are designed to increase students' opportunities for success in their courses.

Many Health and Public Safety Division programs receive more applications than space allows. Therefore, students may need to complete an additional application process by a designated deadline and complete the steps of a Selective Admission process (sometimes referred to as "Progression") to qualify for all of the courses needed to earn a degree. It is important to keep this information in mind as you create your education plan with your academic advisor.

**Selective Admission steps** may include successfully completing designated courses (in addition to any needed academic foundations-

level classes), taking a program-specific admissions test, and/or maintaining a specified grade point average while taking required courses at the College. A rating system is used to determine which students will progress into the selected program.

Many health programs have physical and cognitive requirements for those entering their professions. Information about these requirements can be found with the description of the program on the College website, on program information sheets available in the Division office, and in program handbooks available from the program chair.

## Experiential Learning

The Health and Public Safety Division supports the College's mission of providing educational programs with a combination of theory and practice. For many programs in the Health and Public Safety Division, experience in the clinical setting is an integral part of the educational process. Both clinical and cooperative education components provide students with the practical experience they need to begin work immediately upon graduation.

Individual program descriptions in this section of the Catalog provide specific information about requirements for clinical experience, cooperative education, or internship in Health and Public Safety fields.

To ensure the safety of students and others, our affiliated partners in the health and public safety community require students to comply with certain criteria prior to beginning clinical and experiential learning. Requirements will vary, but generally include a health examination, immunizations, background screenings, and relevant training. Proof of coverage under a policy of health insurance may also be required. Drug testing may be required at any time during student enrollment in a Health and Public Safety program, depending on the requirements of the clinical or practicum site.

Cincinnati State strongly recommends that students obtain personal health insurance coverage. Please be aware that lack of coverage under a policy of health insurance may affect a student's eligibility to participate in the clinical learning experience. Information about an optional health insurance plan for purchase by students is available in the Student Activities Office.

## Health Student Support Services

Cincinnati State Health and Public Safety Division students can obtain comprehensive educational and professional support services to enhance classroom learning and assist in professional development. Support services available to students include special seminars; individualized tutorial assistance; career, personal, and financial counseling; job shadowing opportunities; mentoring; writing and study skills assistance; and assistance developing a re-entry plan following failure in a technical program.

## Transfer Module

The Ohio Department of Higher Education developed the Ohio Transfer Module to facilitate transfer of credits from one Ohio public college or university to another. The transfer module contains 36 to 40 semester hours of course credits in the areas of communication, mathematics, arts and humanities, social and behavioral sciences, and natural and physical sciences. A transfer module completed at one college or university automatically meets the requirements for the transfer module at another college or university once the student is admitted. For additional information, see the State of Ohio Policy for

Institutional Transfer (p. 349) and the Transfer Module (p. 337) sections of this Catalog.

Associate's degree programs in the Health and Public Safety Division contain in their curriculums many of the required courses for the transfer module. Students who wish to complete the transfer module should schedule the additional courses at their convenience. Students who transfer to an Ohio public university for baccalaureate degrees will find that the Cincinnati State Associate of Applied Science degree, combined with a transfer module showing grades of C or higher, receives preferential consideration at the receiving institution.

## Advanced Health Careers Preparatory Certificate (AHPC)

### Advanced Health Careers Preparatory Certificate (AHPC)

The Advanced Health Careers Preparatory Certificate provides recognition that a student has completed courses required for admission into academic programs in health fields such as Master of Science (MS), Master of Science in Nursing (MSN), Doctor of Pharmacy (Pharm.D), Doctor of Physical Therapy (PTD), or Physician Assistant (PA).

Students must hold a bachelor's degree from an accredited institution of higher education to qualify for program entry.

To earn the certificate, students must complete a minimum of 14 credit hours from the courses listed in the certificate curriculum. A minimum grade of C is required for all courses. If a student does not meet the prerequisites for a listed course, additional courses may be required.

Course selections must be approved by the student's advisor.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Advanced Health Careers Preparatory Certificate (AHPC)

**Program Prerequisite:** A bachelor's degree from an accredited institution of higher education, or Program Advisor consent, is required to enroll in the certificate program.

Semester 1	Lec	Lat	Credits
XXX XXX AHPC Elective 1	3	3	4
XXX XXX AHPC Elective 2	2	2	3
<b>Semester 2</b> XXX XXX AHPC Elective 3	3	3	4

XXX XXX AHPC Elective 4	2	2	3
<b>Total Credits:</b>	10	10	14

## Electives

### Advanced Health Careers Preparatory Certificate Electives

Complete at least 14 credits from courses listed below, with a minimum grade of C for all courses. Students must consult with the Program Advisor before registering for courses.

#### Biology

BIO 115	Human Genetics	3
BIO 131	Biology 1	5
BIO 132	Biology 2	5
BIO 151	Anatomy and Physiology 1	4
BIO 152	Anatomy and Physiology 2	4
BIO 220	Microbiology	3
BIO 230	Pharmacology	3
BIO 240	Pathophysiology	3
BIO 250	Cell Biology	5
BIO 260	Genetics	5
BIO 270	Ecology	5
BIO 275	Animal Behavior	5
BIO 240	Pathophysiology	3

#### Chemistry

CHE 110	Fundamentals of Chemistry	4
CHE 111	Bio-Organic Chemistry	4
CHE 121 & CHE 131	General Chemistry 1 and General Chemistry 1 Lab *	5
CHE 122 & CHE 132	General Chemistry 2 and General Chemistry 2 Lab *	5
CHE 201 & CHE 211	Organic Chemistry 1 and Organic Chemistry 1 Lab *	5
CHE 202 & CHE 212	Organic Chemistry 2 and Organic Chemistry 2 Lab *	5

#### Other Electives

DT 120	Nutrition for a Healthy Lifestyle	3
PSY 225	Lifespan Development	3

\* Must co-register for laboratory course

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Program Chair/Advisor

Mark Tiemeier, MS  
mark.tiemeier@cincinnati.edu

### Advisor

Dan Van Vechten, MS

daniel.vanvechten@cincinnatiastate.edu

## Courses

### **BIO 100 Integrated Biology and Skills for Success in Science** **6 Credits. 5 Lecture Hours. 3 Lab Hours.**

A course on integrated biological, mathematical, and scientific laboratory skills needed for success in anatomy and physiology courses required for Health and Public Safety majors, as well as science courses in all majors. Topics include: biological, biochemical, and organismal processes; math fundamentals for science application; and introductory lab experiences. Students must pass a comprehensive exam to pass this course.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

### **BIO 111 Biology: Unity of Life** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on characteristics shared by all living organisms. Topics include: the nature of science, chemistry of life, cell biology, energetics and biochemical pathways, cell division, genetics, molecular biology, and the origin of life.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

Ohio Transfer Module Approved

### **BIO 112 Biology: Diversity of Life** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of BIO 111. Topics include: taxonomy and evolution of animals, plants, fungi, protists, bacteria, and viruses; animal behavior; ecology; population growth; and conservation biology.

Prerequisites: BIO 111

Ohio Transfer Module Approved

### **BIO 115 Human Genetics** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on human traits, genetic conditions, and inheritance. Topics include: DNA structure, patterns of inheritance, meiosis, karyotypes, genetic engineering, and societal implications of an individual's genetic identity.

Prerequisites: BIO 111 or BIO 131 (minimum grade C for either)

### **BIO 117 Human Body in Health and Disease** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Fundamentals of the structure and function of the human body. Topics include: anatomy, normal function contrasted with dysfunction, and common diseases of body systems including symptoms and treatments.

Prerequisites: ENG 080 and MAT 093, or appropriate placements

### **BIO 127 Human Body in Health and Disease Laboratory** **1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A laboratory course that accompanies BIO 117. Laboratory activities include: exercises, slides, models, and animal organ dissections.

Prerequisites: BIO 100 or BIO 111 or BIO 131 or BIO 151, or HS Biology within the last 5 years (minimum grade C for all), or BMT 161  
Corequisites: BIO 117: Human Body in Health and Disease

### **BIO 131 Biology 1** **5 Credits. 4 Lecture Hours. 3 Lab Hours.**

A course on the chemistry of life. Topics include: cellular structure and function; characteristics of life; theory of evolution; understanding DNA and its role in heredity, regulation of biological systems, bioenergetics, and biochemical pathways; and current developments in biotechnology.

Prerequisites: BIO 111 (minimum grade C), or high school Biology within past 5 years (minimum grade C)

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

### **BIO 132 Biology 2** **5 Credits. 4 Lecture Hours. 3 Lab Hours.**

A continuation of BIO 131. Topics include: scientific theory, history of scientific discovery, evolutionary principles, form and function of living organisms, biological classification, behavior of organisms and their relationships to biological systems, ecological systems, applications of biology, and sustainability.

Prerequisites: BIO 131 (minimum grade C)

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

### **BIO 151 Anatomy and Physiology 1** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the structure and function of the human body. Topics include: orientation to anatomy and physiology; cellular function; tissues; special senses; and integumentary, skeletal, muscular, and nervous systems.

Prerequisites: BIO 111, and CHE 100 or CHE 110 or CHE 115; or high school Biology and Chemistry within the past 5 years; or BIO 100 (minimum grade C for all)

Ohio Transfer Module Approved

### **BIO 152 Anatomy and Physiology 2** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of BIO 151. Topics include: endocrine, cardiovascular, immune, respiratory, digestive, urinary, and reproductive systems; metabolism; fluid and electrolyte balance; and human growth and development.

Prerequisites: BIO 151 (minimum grade C)

Ohio Transfer Module Approved

### **BIO 210 Cross Sectional Anatomy** **2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on sectional anatomy of major human structures including the head, neck, thorax, abdomen, pelvis and extremities; and organ relationships in the axial, coronal, and sagittal planes.

Prerequisites: BIO 152 (minimum grade C)

### **BIO 220 Microbiology** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on microbiology and infectious disease. Topics include: microbial taxonomy and identification, microbial cell structure, microbial genetics, metabolism, biotechnology, epidemiology, and immunology.

Prerequisites: BIO 132 or BIO 151 (minimum grade C for either)



**BIO 230 Pharmacology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on clinical drug categories and therapies. Topics include: pharmacokinetics; pharmacodynamics; drug classes and schedules; drug approval and regulation; modes of administration; and indications, mechanism of action, and adverse effects.

Prerequisites: BIO 152 (minimum grade C)

**BIO 240 Pathophysiology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental clinical concepts of disease processes. Topics include: terminology, clinical presentations, manifestations, and diagnostic and therapeutic activities.

Prerequisites: BIO 152 (minimum grade C)

Ohio Transfer Assurance Guide Approved

**BIO 250 Cell Biology****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on the structure and function of cells. Topics include: cell structure and organelles, membrane function, cell respiration and photosynthesis, intracellular transport, cell to cell communication, and cell division.

Prerequisites: BIO 132 and CHE 100 or CHE 110 (minimum grade C for all)

**BIO 260 Genetics****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on mechanisms of heredity and genetics. Topics include: DNA and chromosome structure, transcription and gene regulation, replication and cell division, patterns of inheritance, genetic recombination, mutations and their repair, and genetics of cancer development and evolution.

Prerequisites: BIO 131 and CHE 100 or CHE 110 (minimum grade C for all)

**BIO 270 Ecology****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on interrelationships between organisms and their natural environments. Topics include: ecology and evolution; population ecology, density, dispersion, and dispersal; metapopulations; competition and predation; community structure, succession, and nutrient cycling; and sustainability.

Prerequisites: BIO 132 or BIO 152, and CHE 100 or CHE 110 (minimum grade C for all)

**BIO 275 Animal Behavior****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on the diversity of animal behaviors examined from mechanistic, ecological and evolutionary perspectives. Topics include: genetic, physiological, neural, and developmental bases of behavior; animal learning and social behavior; predator-prey interaction; and communication, reproduction, mating, and parental systems.

Prerequisites: BIO 132 or BIO 270, and CHE 100 or CHE 110 (minimum grade C for all)

**BIO 310 Food Microbiology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the role of microorganisms in foods. Topics include: nomenclature, classification, and prevalence and identification of microorganisms that affect food safety, food spoilage, food-borne illness, and food fermentation.

Prerequisites: CHE 115 and CUL 115 and instructor consent  
Instructor Consent Required

## Bioscience Certificate (BSCC)

### Bioscience Certificate (BSCC)

The Bioscience Certificate is designed for students interested in exploring a new career path in a biotechnological setting.

Graduates who earn the Bioscience Certificate along with the Associate of Science degree (or who previously completed an Associate of Science or Bachelor of Science degree with focus in biological science) are prepared for employment opportunities as laboratory assistants or technicians in a wide range of settings.

Possible assignments include roles in the private sector biotechnology industry and academic-based biological research institutions.

Students who earn the Bioscience Certificate gain experience in laboratory safety, regulations, skills, and methodology as well as competencies in creating standard operating procedures, maintaining records, analyzing data, and other skills.

Topics covered in the certificate include genetic engineering, forensics, protein purification, animal models, electrophoresis technology, and PCR (polymerase chain reaction).

Employees in biological science and biotechnology fields are expected to pay close attention to detail, understand and follow experimental or manufacturing protocols, maintain clean environments, solve problems related to experimentation or manufacturing issues, and analyze data to draw conclusions and adjust procedures.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

### Bioscience Certificate (BSCC)

**Program Prerequisites: BIO 131, CHE 121, and CHEM 131**

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
BSC 115	Introduction to Bioscience	3	3	4
BIO 220	Microbiology	2	3	3
<b>Semester 2</b>				
BSC 205	Molecular Genetics Laboratory	2	6	5
BSC 150	Scientific Literacy for Bioscience	2	0	2
<b>Semester 3</b>				
BSC 210	Protein Purification and Analysis	2	6	5
BSC X9X	Bioscience Cooperative Education Elective	2	40	2
<b>Total Credits:</b>		<b>13</b>	<b>58</b>	<b>21</b>

### Electives

**Bioscience Cooperative Education Elective (Take 2 credits)**

BSC 191	Part-Time Cooperative Education 1: Bioscience	1
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BSC 192	Part-Time Cooperative Education 2: Bioscience	1
BSC 291	Full-Time Cooperative Education 1: Bioscience	2

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## Faculty

### Advisor

Milene Donlin, MS, MPH, CHES  
milene.donlin@cincinnatiastate.edu

## Courses

### **BSC 100 Survey of Bioscience and Biotechnology**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

An introductory course on the disciplines and scope of bioscience and biotechnology. Topics include: applications of bioscience and biotechnology, medical advances, bioethics, current developments, and career opportunities.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

### **BSC 115 Introduction to Bioscience**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on techniques, methodology, skills, and regulations used in bioscience laboratory settings. Topics include: standard operating procedures (SOPs) including record-keeping and data analysis, aseptic technique, solution and media preparation, laboratory management, and foundational elements of microscopy, microbiology, spectroscopy, genetic engineering, animal models in research, and troubleshooting experiments and protocols.

Prerequisites: BIO 131 and CHE 121 and CHE 131 (minimum grade C for all)

Corequisites: BIO 132, CHE 122, CHE 132

### **BSC 120 Cell Culture**

**2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on skills and techniques necessary to perform cell culture.

Topics include: cell counts, biosafety, plant culture, yeast culture, mammalian cell culture, and fermentation techniques.

Prerequisites: BSC 115

### **BSC 150 Scientific Literacy for Bioscience**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on reading, writing, and speaking skills for science professionals. Topics include: style and structure for scientific journal articles, the peer review process, and oral presentations of scientific information.

Prerequisites: None

### **BSC 160 Quality and Compliance in Biomanufacturing**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on quality assurance elements in biomanufacturing industries. Topics include: current Good Manufacturing Practices (cGMPs), lean manufacturing and Six Sigma, root cause analysis, validation and calibration, and regulatory compliance. Students must attend field trips to local biomanufacturing companies.

Prerequisites: BSC 108

### **BSC 191 Part-Time Cooperative Education 1: Bioscience**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BIO 132 and (BSC 205 or BSC 210) (minimum grade C for all)

### **BSC 192 Part-Time Cooperative Education 2: Bioscience**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BSC 191

### **BSC 205 Molecular Genetics Laboratory**

**5 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on molecular genetics techniques. Topics include: DNA and RNA isolation and purification, constructing screening libraries, electrophoresis, vector construction, Southern blot, PCR, DNA sequencing, and microarrays.

Prerequisites: BSC 115 and BIO 220 (minimum grade C for both)

Instructor Consent Required

### **BSC 210 Protein Purification and Analysis**

**5 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on isolation, purification, and analysis of proteins from cells. Topics include: chromatography, electrophoresis, Western blot, enzyme assays, proteomics, ELISA, and other immunochemistry methods for detecting proteins.

Prerequisites: BSC 115 and BIO 220 (minimum grade C for both)

### **BSC 230 Introduction to Bioinformatics**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on computer applications, statistics, and genetics used in computational biology and bioinformatics. Topics include: the Human Genome and Human Proteome projects, multiple sequence analysis, genetic conditions and trends, and use of databases such as BLAST, FASTA, and Entrez.

Prerequisites: BIO 111 or BIO 131

### **BSC 280 Bioscience Capstone Project**

**2 Credits. 0 Lecture Hour. 4 Lab Hours.**

Students design and perform a project under the supervision of a Bioscience instructor. Topics include: planning a budget, and documenting project results.

Prerequisites: BIO 132, and ( BSC 205 or BSC 210)

### **BSC 291 Full-Time Cooperative Education 1: Bioscience**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BIO 132 and ( BSC 205 or BSC 210) (minimum grade C for all)

**BSC 294 Internship 1: Bioscience****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issues are Satisfactory or Unsatisfactory.

Prerequisites: BIO 132, BSC 205, or BSC 210 (minimum grade C for all)

## Diagnostic Medical Sonography (DMSC & DMSG)

### Diagnostic Medical Sonography - Cardiovascular (DMSC) or General Imaging (DMSG)

The diagnostic medical sonographer is a highly-skilled professional who uses specialized equipment to create diagnostic images.

The Diagnostic Medical Sonography program at Cincinnati State prepares students to become entry-level diagnostic medical sonographers in two specialty areas:

- Cardiac and vascular sonography (DMSC)
- Abdominal, obstetric, and gynecological sonography (DMSG)

Program graduates earn an Associate of Applied Science degree that includes general education and technical sonography courses. The program also includes supervised clinical experience on site at various health care facilities in the Greater Cincinnati area. Clinical experiences are unpaid.

Courses in this program are scheduled primarily between 8:00 a.m. and 5:00 p.m., Monday through Friday.

Students must have a minimum grade point average (GPA) of 2.75 to graduate. Graduates are eligible to take the American Registry of Diagnostic Medical Sonographers national certification examination.

The program is accredited by The Commission on Accreditation of Allied Health Education Programs upon the recommendation of the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS), 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL 33756. Website: <http://www.caahep.org>. Phone: (727) 210-2350. FAX: (727) 210-2354.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

## Diagnostic Medical Sonography— Cardiovascular (DMSC)

Students seeking admission to the Diagnostic Medical Sonography - Cardiovascular program must complete specific requirements. After completing Semester 2 of Year 1, students should apply for selective enrollment into the DMS program. Year 2 courses begin in Fall Semester. Students should meet with their academic advisor to discuss eligibility and deadlines for selective enrollment.

**First Year**

		Lec	Lab	Credits
<b>Semester 1</b>				
FYE 1XX	First Year Experience Elective (B)	1	0	1
MCH 104	Comprehensive Medical Terminology (B)	3	0	3
BIO 151	Anatomy and Physiology 1 (G)	3	2	4
MAT 161	College Algebra for Diagnostic Medical Sonography (G)	3	2	4
ENG 101	English Composition 1 (G)	3	0	3
<b>Semester 2</b>				
BIO 152	Anatomy and Physiology 2 (B)	3	2	4
DMS 100	Survey of Sonography (B)	2	2	3
PHY 110	Health Physics (B)	2	3	3
MCH 1XX	Multicompetency Healthcare Elective (B)	1	3	2
After completing Year 1, Semester 1 and 2 courses, apply for Selective Enrollment into the DMSC program.				
<b>Second Year</b>				
<b>Semester 1</b>				
DMSC 110	Advanced Electrocardiography (B)	1	2	2
DMS 111	Sonographic Principles and Instrumentation 1 (T)	3	0	3
DMSC 120	Cardiovascular Sonography (T)	3	0	3
DMSC 121	Cardiovascular Sonography Scan Lab 1 (T)	0	6	2
ENG 1XX	English Composition Elective (G)	3	0	3
<b>Semester 2</b>				
DMS 112	Sonographic Principles and Instrumentation 2 (T)	2	0	2
DMSC 122	Cardiovascular Sonography Scan Lab 2 (T)	0	6	2
DMSC 131	Vascular Sonography 1 (T)	3	0	3
DMSC 141	Echocardiography 1 (T)	3	0	3
PSY 110	Introduction to Psychology (G)	3	0	3
<b>Semester 3</b>				
DMSC 223	Cardiovascular Sonography Scan Lab 3 (T)	0	3	1
DMSC 281	Cardiovascular Internship 1 (T)	0	24	1
<b>Third Year</b>				
<b>Semester 1</b>				
DMSC 224	Cardiovascular Sonography Scan Lab 4 (T)	0	4	2
DMSC 232	Vascular Sonography 2 (T)	2	0	2
DMSC 242	Echocardiography 2 (T)	2	0	2
DMSC 282	Cardiovascular Internship 2 (T)	0	24	1

**Semester 2**

DMSC 250	Cardiovascular Imaging Seminar ( T)	1	2	2
DMSC 283	Cardiovascular Internship 3 ( T)	0	32	2
Total Credits:		47	117	66

**Electives****First Year Experience Elective**

FYE 100	College Survival Skills	1		
FYE 105	College Success Strategies	2		
FYE 110	Community College Experience	3		

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3		
ENG 103	English Composition 2: Writing about Literature	3		
ENG 104	English Composition 2: Technical Communication	3		

**Multicompetency Healthcare Elective**

MCH 138	Patient Care Skills	2		
MCH 130	Nurse Aide Training	4		

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The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Diagnostic Medical Sonography—  
General Imaging (DMSG)**

Students seeking admission to the Diagnostic Medical Diagnostic Medical Sonography - General Imaging program must complete specific requirements. After completing Semester 2 of Year 1, students should apply for selective enrollment into the DMS program. Year 2 courses begin in Fall Semester. Students should meet with their academic advisor to discuss eligibility and deadlines for selective enrollment.

**First Year**

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
FYE 1XX	First Year Experience Elective ( B)	1	0	1
MCH 104	Comprehensive Medical Terminology ( B)	3	0	3
BIO 151	Anatomy and Physiology 1 ( G)	3	2	4

MAT 161	College Algebra for Diagnostic Medical Sonography ( G)	3	2	4
ENG 101	English Composition 1 ( G)	3	0	3

**Semester 2**

DMS 100	Survey of Sonography ( B)	2	2	3
PHY 110	Health Physics ( G)	2	3	3
BIO 152	Anatomy and Physiology 2 ( B)	3	2	4
MCH 1XX	Multicompetency Healthcare Elective ( B)	1	3	2

After completing Year 1, Semester 1 and 2 courses, apply for Selective Enrollment into the DMSG program.

**Second Year****Semester 1**

DMSG 110	Sterile Techniques ( B)	1	2	2
DMS 111	Sonographic Principles and Instrumentation 1 ( T)	3	0	3
DMSG 120	General Imaging Sonography ( T)	3	0	3
DMSG 121	General Imaging Sonography Scan Lab 1 ( T)	0	6	2

ENG 1XX	English Composition Elective ( G)	3	0	3
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**Semester 2**

DMS 112	Sonographic Principles and Instrumentation 2 ( T)	2	0	2
DMSG 122	General Imaging Sonography Scan Lab 2 ( T)	0	6	2
DMSG 131	Abdominal Sonography 1 ( T)	3	0	3
DMSG 141	Obstetrics and Gynecology Sonography 1 ( T)	3	0	3
PSY 110	Introduction to Psychology ( G)	3	0	3

**Semester 3**

DMSG 223	General Imaging Sonography Scan Lab 3 ( T)	0	3	1
DMSG 281	General Imaging Internship 1 ( T)	0	24	1

**Third Year****Semester 1**

DMSG 224	General Imaging Sonography Scan Lab 4 ( T)	0	4	2
DMSG 232	Abdominal Sonography 2 ( T)	2	0	2
DMSG 242	Obstetrics and Gynecology Sonography 2 ( T)	2	0	2
DMSG 282	General Imaging Internship 2 ( T)	0	24	1

**Semester 2**

DMSG 250	General Imaging Seminar ( T)	2	0	2
DMSG 283	General Imaging Internship 3 ( T)	0	32	2

Total Credits:		48	115	66
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## Electives

### FYE Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3

### Multicompetency Healthcare Elective

MCH 138	Patient Care Skills	2
MCH 130	Nurse Aide Training	4

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The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Diagnostic Medical Sonography - Cardiovascular (DMSC)

- Obtain, review, and integrate pertinent patient history and supporting clinical data to facilitate optimum diagnostic results.
- Perform appropriate procedures and record anatomic, pathologic, and/or physiologic data for interpretation by a physician.
- Record, analyze, and process diagnostic data and other pertinent observations made during the procedure for presentation to the interpreting physician.
- Demonstrate effective communication skills with patients and all members of the healthcare team.
- Act in a professional manner within recognized ethical and legal standards.
- Demonstrate knowledge of sonographic biological effects and proper application of sonographic instrumentation relative to imaging and image quality.
- Demonstrate the ability to perform adult cardiac sonographic examinations according to protocol guidelines established by national professional organizations and the protocols of the employing institutions utilizing real-time equipment and Doppler display modes.
- Demonstrate the ability to perform vascular sonographic examinations according to protocol guidelines established by national professional organizations and the protocols of the

employing institutions utilizing real-time equipment, Doppler display modes, and physiologic testing.

## Diagnostic Medical Sonography - General (DMSG)

- Obtain, review, and integrate pertinent patient history and supporting clinical data to facilitate optimum diagnostic results.
- Perform appropriate procedures and record anatomic, pathologic, and/or physiologic data for interpretation by a physician.
- Record, analyze, and process diagnostic data and other pertinent observations made during the procedure for presentation to the interpreting physician.
- Demonstrate effective communication skills with patients and all members of the healthcare team.
- Act in a professional manner within recognized ethical and legal standards.
- Demonstrate knowledge of sonographic biological effects and proper application of sonographic instrumentation relative to imaging and image quality.
- Demonstrate the ability to perform sonographic examinations of the abdomen, superficial structures, and non-cardiac chest according to protocol guidelines established by national professional organizations and the protocols of the employing institutions utilizing real-time equipment and Doppler display modes.
- Demonstrate the ability to perform sonographic examinations of the gravid and nongravid pelvis according to protocol guidelines established by national professional organizations and the protocols of the employing institutions utilizing real-time equipment with both transabdominal and endocavitary transducers, and Doppler display modes.

## Faculty

### Program Chair

Tina Cisle, MS, RDMS, RDCS, RVT  
tina.cisle@cincinnatiastate.edu

### Experiential Learning Coordinator

Emily Harness, BS, CNMT, RDMS  
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### Advisor

Kathleen Barker, MA  
kathleen.barker@cincinnatiastate.edu

## DMSC Courses

### DMSC 110 Advanced Electrocardiography 2 Credits. 1 Lecture Hour. 2 Lab Hours.

A course on electrocardiography principles and techniques. Topics include: patient preparation, 12-lead ECG setup and interpretation, common dysrhythmia recognition, myocardial infarct patterns, and chamber enlargement.

Prerequisites: Admitted to the DMS program through the selective enrollment process, and instructor consent

Instructor Consent Required

**DMSC 120 Cardiovascular Sonography****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on cardiovascular scanning techniques and the operation of ultrasound systems. Topics include: professional standards and behaviors, basic ultrasound machine controls, scan planes, demonstration of appropriate imaging, and use of descriptive terminology associated with cardiac and vascular studies.

Prerequisites: Instructor consent

Corequisites: DMSC 121: Cardiovascular Sonography Scan Lab 1  
Instructor Consent Required

**DMSC 121 Cardiovascular Sonography Scan Lab 1****2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on developing skills in the scanning techniques and protocols related to cardiac and vascular structures and physiology.

Prerequisites: Instructor consent

Corequisites: DMSC 120: Cardiovascular Sonography DMS 111 :  
Sonographic Principles and Instrumentation 1 DMSC 110 : Advanced  
Electrocardiography  
Instructor Consent Required

**DMSC 122 Cardiovascular Sonography Scan Lab 2****2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A continuation of DMSC 121, emphasizing increased experience using scanning techniques and protocols related to cardiac and vascular structures and physiology.

Prerequisites: DMSC 121 (minimum grade C)

Corequisites: DMSC 131 : Vascular Sonography 1 DMSC 141 :  
Echocardiography 1 DMS 112 : Sonographic Principles and  
Instrumentation 2

**DMSC 131 Vascular Sonography 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theory and principles of vascular sonography. Topics include: vascular anatomy and physiology; etiology of pathologies; imaging techniques and protocols; and detecting and differentiating abnormalities, pathologies, and other deviations from normal development.

Prerequisites: DMSC 120 and DMSC 121 (minimum grade C for both)

Corequisites: DMSC 141 : Echocardiography 1 DMSC 122 :  
Cardiovascular Sonography Scan Lab 2 DMS 112 : Sonographic  
Principles and Instrumentation 2

**DMSC 141 Echocardiography 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theory and principles of adult cardiac sonography. Topics include: cardiac anatomy and physiology; etiology of pathologies; imaging techniques and protocols; and detecting and differentiating abnormalities, pathologies, and other deviations from normal development.

Prerequisites: DMSC 120 and DMSC 121 (minimum grade C for both)

Corequisites: DMSC 131 : Vascular Sonography 1 DMSC 122 :  
Cardiovascular Sonography Scan Lab 2 DMS 112 : Sonographic  
Principles and Instrumentation 2

**DMSC 223 Cardiovascular Sonography Scan Lab 3****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A continuation of DMSC 122, emphasizing increased skills and experience using scanning techniques and protocols related to cardiac and vascular structures and physiology.

Prerequisites: DMSC 122 (minimum grade C)

**DMSC 224 Cardiovascular Sonography Scan Lab 4****2 Credits. 0 Lecture Hour. 4 Lab Hours.**

Students demonstrate required sonography competencies and proficiencies prior to completion of the program.

Prerequisites: DMSC 223

**DMSC 232 Vascular Sonography 2****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DMSC 131, with additional information on theory and principles of vascular sonography.

Prerequisites: DMSC 131 (minimum grade C)

**DMSC 242 Echocardiography 2****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DMSC 141, with additional information on theory and principles of adult cardiac sonography.

Prerequisites: DMSC 141 (minimum grade C)

**DMSC 245 Cardiovascular Specialties****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on advanced procedures and emerging technologies in the field of cardiovascular ultrasound.

Prerequisites: DMSC 232, DMSC 242 (minimum grade C for both)

**DMSC 250 Cardiovascular Imaging Seminar****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on integration of concepts and clinical applications in cardiovascular sonography. Topics include: current trends and advanced cardiovascular procedures and technologies, transition to an entry-level cardiovascular sonography position, mock registry examinations, and preparation for national credentialing examinations. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: DMSC 224, DMSC 232, and DMSC 242 (minimum grade C for all)

**DMSC 281 Cardiovascular Internship 1****1 Credit. 0 Lecture Hour. 24 Lab Hours.**

Students participate in supervised practice of cardiac and vascular diagnostic ultrasound procedures in hospitals, clinics, and private physician offices. Students are evaluated on professional behavior and performance, and clinical competency.

Prerequisites: DMSC 122 and DMSC 131 and DMSC 141 (minimum grade C for all)

Corequisites: DMSC 223 : Cardiovascular Sonography Scan Lab 3

**DMSC 282 Cardiovascular Internship 2****1 Credit. 0 Lecture Hour. 24 Lab Hours.**

A continuation of DMSC 281. Students participate in supervised practice of cardiac and vascular diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.

Prerequisites: DMSC 281

Corequisites: DMSC 232 : Vascular Sonography 2 DMSC 242 :  
Echocardiography 2 DMSC 224 : Cardiovascular Sonography Scan  
Lab 4

**DMSC 283 Cardiovascular Internship 3****2 Credits. 0 Lecture Hour. 32 Lab Hours.**

A continuation of DMSC 282. Students participate in supervised practice of cardiac and vascular diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.

Prerequisites: DMSC 282

Corequisites: DMSC 250 : Cardiovascular Imaging Seminar

## DMSG Courses

### DMSG 110 Sterile Techniques

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamental surgical skills and surgical room set-up procedures. Topics include: rules and regulations for sterile environments, sterile trays and other equipment, technician behavior in sterile environments, infection risk control, surgical asepsis, anesthesia, and specimen care.

Prerequisites: Admitted to the DMS program through the selective enrollment process, and instructor consent  
Instructor Consent Required

### DMSG 120 General Imaging Sonography

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on general imaging scanning techniques and the operation of ultrasound systems. Topics include: professional standards and behaviors, basic ultrasound machine controls, scan planes, demonstration of appropriate imaging techniques, and use of descriptive terminology associated with abdomen, obstetrics, and gynecological studies.

Prerequisites: Instructor consent

Corequisites: DMSG 121: General Imaging Sonography Scan Lab 1  
Instructor Consent Required

### DMSG 121 General Imaging Sonography Scan Lab 1

**2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on developing skills in the scanning techniques and protocols related to abdominal, superficial parts, obstetrics, and gynecological structures and physiology.

Prerequisites: Instructor consent

Corequisites: DMSG 120: General Imaging Sonography DMS 111 : Sonographic Principles and Instrumentation 1 DMSG 110 : Sterile Techniques

Instructor Consent Required

### DMSG 122 General Imaging Sonography Scan Lab 2

**2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A continuation of DMSG 121, emphasizing increased experience using scanning techniques and protocols related to abdominal, superficial parts, obstetrics, and gynecological structures and physiology.

Prerequisites: DMSG 121 (minimum grade C)

Corequisites: DMSG 131 : Abdominal Sonography 1 DMSG 141 : Obstetrics and Gynecology Sonography 1 DMS 112 : Sonographic Principles and Instrumentation 2

### DMSG 131 Abdominal Sonography 1

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theory and principles of abdominal and superficial parts sonography. Topics include: normal and abnormal etiology, diagnostic techniques and correlation with clinical tests, scanning techniques and protocols, and detection of abnormalities and pathologies.

Prerequisites: DMSG 120 and DMSG 121 (minimum grade C for both)

Corequisites: DMSG 141 : Obstetrics and Gynecology Sonography 1 DMSG 122 : General Imaging Sonography Scan Lab 2 DMS 112 : Sonographic Principles and Instrumentation 2

### DMSG 141 Obstetrics and Gynecology Sonography 1

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theory and principles of obstetrical and gynecological sonography. Topics include: normal and abnormal etiology; diagnostic techniques related to gynecology and fetal development; scanning techniques and protocols; and detecting abnormalities, pathologies, and other deviations from normal development.

Prerequisites: DMSG 120 and DMSG 121 (minimum grade C for both)

Corequisites: DMSG 131 : Abdominal Sonography 1 DMSG 122 : General Imaging Sonography Scan Lab 2 DMS 112 : Sonographic Principles and Instrumentation 2

### DMSG 223 General Imaging Sonography Scan Lab 3

**1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A continuation of DMSG 122, emphasizing increased experience using scanning techniques and protocols related to abdominal, superficial parts, obstetrics, and gynecological structures and physiology.

Prerequisites: DMSG 122 (minimum grade C)

### DMSG 224 General Imaging Sonography Scan Lab 4

**2 Credits. 0 Lecture Hour. 4 Lab Hours.**

Students demonstrate required sonography competencies and proficiencies prior to completion of the program.

Prerequisites: DMSG 223

### DMSG 232 Abdominal Sonography 2

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DMSG 131, with additional information on theory and principles of abdominal and superficial parts sonography.

Prerequisites: DMSG 131 (minimum grade C)

### DMSG 242 Obstetrics and Gynecology Sonography 2

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DMSG 141, with additional information on theory and principles of obstetrical and gynecological sonography.

Prerequisites: DMSG 141 (minimum grade C)

### DMSG 245 General Imaging Specialties

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on advanced procedures and emerging technologies in the field of general imaging ultrasound.

Prerequisites: DMSG 232, DMSG 242 (minimum grade C for both)

### DMSG 250 General Imaging Seminar

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on integration of concepts and clinical applications in general sonography. Topics include: current trends and advanced sonographic procedures and technologies, transition to an entry-level general imaging sonography position, mock registry examinations, and preparation for national credentialing examinations. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: DMSG 224, DMSG 232 and DMSG 242 (Minimum grade C for all)

### DMSG 281 General Imaging Internship 1

**1 Credit. 0 Lecture Hour. 24 Lab Hours.**

Students participate in supervised practice of general imaging and obstetrical diagnostic ultrasound procedures in hospitals, clinics, and private physician offices. Students are evaluated on professional behavior and performance, and clinical competency.

Prerequisites: DMSG 122 and DMSG 131 and DMSG 141 (minimum grade C for all)

Corequisites: DMSG 223 : General Imaging Sonography Scan Lab 3

**DMSG 282 General Imaging Internship 2****1 Credit. 0 Lecture Hour. 24 Lab Hours.**

A continuation of DMSG 281. Students participate in supervised practice of general imaging and obstetrical diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.

Prerequisites: DMSG 281

Corequisites: DMSG 232 : Abdominal Sonography 2 DMSG 242 : Obstetrics and Gynecology Sonography 2

**DMSG 283 General Imaging Internship 3****2 Credits. 0 Lecture Hour. 32 Lab Hours.**

A continuation of DMSG 282. Students participate in supervised practice of general imaging and obstetrical diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.

Prerequisites: DMSG 282

Corequisites: DMSG 250 : General Imaging Seminar

**DMS Courses****DMS 100 Survey of Sonography****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on foundational concepts in the field of medical sonography.

Topics include: the role of the sonographer in the healthcare setting, ultrasound system controls and functions, image production and display, and basic ultrasound physics.

Prerequisites: BIO 151 and MCH 104 (minimum grade C for both)

Corequisites: BIO 152

**DMS 111 Sonographic Principles and Instrumentation 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of physics in relation to ultrasound function and instrumentation. Topics include: characteristics of sound energy; using ultrasound in imaging; and waveforms, propagation, velocity, wavelength, acoustic impedance, reflection, and other types of interaction with tissue.

Prerequisites: MAT 150

Instructor Consent Required

**DMS 112 Sonographic Principles and Instrumentation 2****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DMS 111. Topics include: integrating knowledge of physics with instrumentation theory and applications; understanding advanced signal processing, complex instrumentation, recording devices, biological effects, hemodynamics, Doppler principles, and quality control methods; and producing high quality diagnostic images.

Prerequisites: DMS 111

**DMS 255 Ethics and Medical Law in Sonography****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on ethical and legal issues related to the sonography profession. Topics include: laboratory accreditation, professional education, and research standards and practices.

Prerequisites: DMSC 232 and DMSC 242, or DMSG 232 and DMSG 242 (minimum grade C for all)

**Exercise Science (EXS)****Exercise Science (EXS)**

The Exercise Science associate's degree program provides fundamental and theoretical knowledge and skills in the science of human movement. Course work includes anatomy and physiology, exercise physiology, health and wellness principles, exercise programming, and emergency procedures.

Students in the Exercise Science program complete the Personal Fitness Trainer Certificate (p. 253) (or may complete this certificate prior to starting the associate's degree), and also complete one or more additional certificates: Corrective Exercise Specialist (p. 251), Group Fitness Instructor (p. 253), Health and Fitness Special Populations (p. 253), or Yoga Teacher Training (p. 254).

Graduates of the Exercise Science program are prepared to transfer to a bachelor's degree program or enter the work force in a fitness and health field with the ability to motivate clients, adapt exercises to client needs, and monitor the safety and progress of clients.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

**Exercise Science (EXS)**

Semester 1		Lec	Lat	Credits
FYE XXX First Year Experience Elective (B)				
EMS 100	CPR and First Aid for the Health Care Professional (B)	1	0	1
EXS 130	Foundations of Health and Wellness Programs (B)	2	2	3
EXS 151	Principles of Exercise Assessment and Prescription (T)	2	2	3
DT 120	Nutrition for a Healthy Lifestyle (B)	3	0	3
ENG 101	English Composition 1 (G)	3	0	3
Semester 2				
EXS 152	Exercise Programming (T)	2	2	3
EXS 156	Establishing a Personal Training Business (T)	3	0	3
EXS 182	Personal Fitness Trainer Practicum (T)	1	7	2
EXS 255	Anatomical Kinesiology (T)	3	0	3
PE 132	Resistance and Cardiorespiratory Training (B)	0	2	1
COMM 1XX	Communication Elective (B)	3	0	3
Semester 3				
BIO 151	Anatomy and Physiology 1 (G)	3	2	4
MAT 105	Quantitative Reasoning (G)	2	2	3
ENG 10X	English Composition Elective (G)	3	0	3
Semester 4				
EXS 250	Exercise Physiology (T)	3	2	4
BIO 152	Anatomy and Physiology 2 (B)	3	2	4
PSY 110	Introduction to Psychology (G)	3	0	3
EXS XXX	Exercise Science Elective 1 (T)	3	0	3



**Semester 5**

EXS 294	Internship: Exercise Science ( T)	1	40	2
EXS 260	Exercise Science Program Design ( T)	2	2	3
EXS XXX	Exercise Science Elective 2 ( T)	3	0	3
PE XXX	Physical Education Elective ( T)	0	2	1
Total Credits:		49	67	61

**Electives****English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues (Health Fitness for Special Populations)	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

**Communication Elective**

COMM 105	Interpersonal Communications	3
COMM 110	Public Speaking	3

**Physical Education Electives (2 credit hours required)**

Any PE	2
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**Exercise Science Elective (6 credit hours required)**

Corrective Exercise Specialist Certificate (CESC)		
EXS 251	Corrective Exercise Specialist	2
Group Fitness Instructor Certificate (GFIC)		
EXS 122	Group Fitness Instructor	4
Health & Fitness Special Populations Certificate (HFSPC)		
EXS 164	Health and Fitness Across the Life Span 1	3
EXS 168	Health and Fitness Across the Life Span 2	3
Yoga Teacher Training Certificate (YIC)		
EXS 118	Yoga Teacher Training 1	5
EXS 119	Yoga Teacher Training 2	5
EXS 184	Yoga Internship	2
EXS 185	Yoga Internship 2	2
Dietetic Technology Elective		
DT 135	Sports Nutrition	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Health and Fitness Technology (HFT)**

- Demonstrate an understanding of basic human anatomy and physiology.
- Explain fitness and wellness concepts and the relationship between physical activity and good health.
- Assess the health status of exercise participants using appropriate screening tools.
- Conduct valid and reliable fitness assessments to facilitate effective program design.
- Design safe and effective exercise programs based on scientific principles that will achieve individual fitness goals.
- Demonstrate a variety of safe and effective exercises.
- Effectively communicate with clients, fitness professionals, and other health care providers.

**Faculty****Program Chair/Advisor (All Health & Fitness programs)**

Melinda (Mindy) Piles, MEd, ACSM EP-C, CPT  
melinda.piles@cincinnatiastate.edu

**Courses****EXS 118 Yoga Teacher Training 1**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for National Yoga Alliance Certification. Topics include: building a personal practice, instructional concepts, safety guidelines, modifications for special populations, physical anatomy, and yoga techniques and practices.

Prerequisites: Admitted to the Yoga Teacher Training Certificate program

Corequisites: EXS 184

**EXS 119 Yoga Teacher Training 2**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of EXS 118 that prepares students for National Yoga Alliance Certification. Topics include: guidelines, modifications for special populations, anatomy, and yoga techniques and practices.

Prerequisites: EXS 118 and EXS 184

Corequisites: EXS 185

**EXS 122 Group Fitness Instructor**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course that prepares students for the American Council on Exercise National Group Fitness Instructor Examination. Topics include: communication skills, instructional concepts, effective exercise design, choreography, safety guidelines, and modifications for special populations.

Prerequisites: Admitted to the Group Fitness Instructor Certificate program

**EXS 130 Foundations of Health and Wellness Programs****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on developing fitness and wellness programs for individuals and groups, emphasizing disease prevention and health promotion. Topics include: fitness testing for each fitness component, behavior modification, nutrition, stress management, addictions, sexually transmitted disease, and chronic disease.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both), or appropriate placements

**EXS 151 Principles of Exercise Assessment and Prescription****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on techniques used in the personal training fitness field.

Topics include: the body's response to exercise, screening and consultation guidelines, dietary principles, and communication and documentation.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both) or appropriate placements, and admitted to the Personal Fitness Trainer Certificate program

Corequisites: EXS 130

Instructor Consent Required

**EXS 152 Exercise Programming****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of EXS151 that prepares students for the American Council on Exercise National Certified Personal Trainer Exam. Topics include: applying exercise principles, using therapeutic exercise, working with special populations, understanding legal issues, and analyzing and evaluating fitness techniques.

Prerequisites: EXS 151 (minimum grade C)

Corequisites: EXS 182, EXS 156

**EXS 156 Establishing a Personal Training Business****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategies for promoting personal training services and establishing a client base. Topics include: using resources to build a client base, applying sales processes, networking, analyzing needs, and handling objections.

Prerequisites: EXS 151 (minimum grade C)

Corequisites: EXS 152, EXS 182

**EXS 164 Health and Fitness Across the Life Span 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the impact of exercise on quality of life for older adults and those with chronic health conditions/diseases. Topics include:

American College of Sports Medicine guidelines for testing and exercise prescription, and the effects of the aging process and chronic conditions on exercise performance and fitness program development.

Prerequisites: EXS 130 (minimum grade C), and admitted to the Health and Fitness Special Populations Certificate program

**EXS 168 Health and Fitness Across the Life Span 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the national guidelines for youth fitness/physical activity and exercise programming throughout a woman's life stages. Topics include: program design; childhood obesity; the role of school, family, and community in youth fitness; cultural and gender differences affecting fitness; and women's life stages (adolescence, prenatal, menopause) and conditions that affect exercise.

Prerequisites: EXS 130 (minimum grade C)

Instructor Consent Required

**EXS 182 Personal Fitness Trainer Practicum****2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students apply personal fitness training knowledge and skills in a health and fitness setting by observing and assisting with classes taught by a professional personal fitness trainer.

Prerequisites: EXS 151 (minimum grade C) and EMS 100

Corequisites: EXS 152

**EXS 184 Yoga Internship****1 Credit. 0 Lecture Hour. 4 Lab Hours.**

Students apply yoga knowledge and skills in a practice setting by observing and assisting in classes taught by a certified Yoga Instructor.

Prerequisites: EXS 119 and admitted to the Yoga Teacher Training Certificate program

**EXS 185 Yoga Internship 2****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

Students apply yoga knowledge and skills in a practice setting by observing and assisting in classes taught by a certified Yoga Instructor.

Prerequisites: EXS 118 and EXS 184

Corequisites: EXS 119

**EXS 191 Part-Time Cooperative Education: Exercise Science****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EXS 250 and EMS 100 (minimum grade C for both), and instructor consent

Corequisites: EXS 260

Instructor Consent Required

**EXS 250 Exercise Physiology****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the human body's response and adaptations to exercise and physical training. Topics include: the influence of exercise on body systems, optimal physiological adaptations for improving fitness and performance, and testing and programming related to exercise and fitness.

Prerequisites: BIO 151 and ENG 101 and EXS 130 and MAT 105 (minimum grade C for all), and instructor consent

Instructor Consent Required

**EXS 251 Corrective Exercise Specialist****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course that prepares experienced fitness trainers/instructors to successfully prevent injuries and recondition clients of all levels, and to take the National Academy of Sports Medicine Corrective Exercise Specialist exam. Topics include: fundamentals of corrective exercise, and developing and implementing integrated strategies to improve common movement impairments.

Prerequisites: Currently enrolled in EXS 152, or earned Cincinnati State certificate in Personal Fitness Trainer or Group Fitness Instructor, or have a comparable current national accreditation or certification

Instructor Consent Required

**EXS 255 Anatomical Kinesiology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of human anatomy and motion as they relate to physical activity and skill performance. Topics include: the function of the skeletal, muscle, and nervous systems in generation and maintenance of human movement.

Prerequisites: EXS 130 (minimum grade C)

**EXS 260 Exercise Science Program Design****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills for identifying, assessing, designing, promoting, implementing, and evaluating programs for health and fitness in various settings. Topics include: needs assessment, funding, marketing, and using tools for evaluating program outcomes. Students in the course plan and deliver fitness classes.

Prerequisites: EXS 250 (minimum grade C)

Corequisites: EXS 294 or EXS 191

**EXS 294 Internship: Exercise Science****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in an unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EXS 250 and EMS 100 (minimum grade C for both), and instructor consent

Corequisites: EXS 260

Instructor Consent Required

## Corrective Exercise Specialist (CESC)

### Corrective Exercise Specialist (CESC)

The one-semester Corrective Exercise Specialist Certificate prepares students to successfully prevent injuries and recondition clients of all levels. Students examine evidence-based approaches to corrective exercise and gain skills needed to develop and implement integrated strategies to improve common movement impairments.

Students who successfully complete the certificate are prepared for the Corrective Exercise Specialist credentialing examination offered by the National Academy of Sport Medicine.

To be eligible for this certificate, students must complete the Personal Fitness Trainer or Group Fitness Instructor certificate from Cincinnati State, or have a current nationally-accredited certificate in either Personal Training or Group Fitness.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Corrective Exercise Specialist (CESC)

Semester 1		Lec	Lat	Credits
EMS 100	CPR and First Aid for the Health Care Professional	1	0	1

EXS 251	Corrective Exercise Specialist	1	2	2
Total Credits:		2	2	3

## Faculty

### Program Chair/Advisor

Melinda (Mindy) Piles, MEd, ACSM, EP-C, CPT

melinda.piles@cincinnati.edu

## Courses

**EXS 118 Yoga Teacher Training 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for National Yoga Alliance Certification. Topics include: building a personal practice, instructional concepts, safety guidelines, modifications for special populations, physical anatomy, and yoga techniques and practices.

Prerequisites: Admitted to the Yoga Teacher Training Certificate program

Corequisites: EXS 184

**EXS 119 Yoga Teacher Training 2****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of EXS 118 that prepares students for National Yoga Alliance Certification. Topics include: guidelines, modifications for special populations, anatomy, and yoga techniques and practices.

Prerequisites: EXS 118 and EXS 184

Corequisites: EXS 185

**EXS 122 Group Fitness Instructor****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course that prepares students for the American Council on Exercise National Group Fitness Instructor Examination. Topics include: communication skills, instructional concepts, effective exercise design, choreography, safety guidelines, and modifications for special populations.

Prerequisites: Admitted to the Group Fitness Instructor Certificate program

**EXS 130 Foundations of Health and Wellness Programs****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on developing fitness and wellness programs for individuals and groups, emphasizing disease prevention and health promotion. Topics include: fitness testing for each fitness component, behavior modification, nutrition, stress management, addictions, sexually transmitted disease, and chronic disease.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both), or appropriate placements

**EXS 151 Principles of Exercise Assessment and Prescription****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on techniques used in the personal training fitness field. Topics include: the body's response to exercise, screening and consultation guidelines, dietary principles, and communication and documentation.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both) or appropriate placements, and admitted to the Personal Fitness Trainer Certificate program

Corequisites: EXS 130

Instructor Consent Required

**EXS 152 Exercise Programming****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of EXS151 that prepares students for the American Council on Exercise National Certified Personal Trainer Exam. Topics include: applying exercise principles, using therapeutic exercise, working with special populations, understanding legal issues, and analyzing and evaluating fitness techniques.

Prerequisites: EXS 151 (minimum grade C)

Corequisites: EXS 182, EXS 156

**EXS 156 Establishing a Personal Training Business****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategies for promoting personal training services and establishing a client base. Topics include: using resources to build a client base, applying sales processes, networking, analyzing needs, and handling objections.

Prerequisites: EXS 151 (minimum grade C)

Corequisites: EXS 152, EXS 182

**EXS 164 Health and Fitness Across the Life Span 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the impact of exercise on quality of life for older adults and those with chronic health conditions/diseases. Topics include: American College of Sports Medicine guidelines for testing and exercise prescription, and the effects of the aging process and chronic conditions on exercise performance and fitness program development.

Prerequisites: EXS 130 (minimum grade C), and admitted to the Health and Fitness Special Populations Certificate program

**EXS 168 Health and Fitness Across the Life Span 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the national guidelines for youth fitness/physical activity and exercise programming throughout a woman's life stages. Topics include: program design; childhood obesity; the role of school, family, and community in youth fitness; cultural and gender differences affecting fitness; and women's life stages (adolescence, prenatal, menopause) and conditions that affect exercise.

Prerequisites: EXS 130 (minimum grade C)

Instructor Consent Required

**EXS 182 Personal Fitness Trainer Practicum****2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students apply personal fitness training knowledge and skills in a health and fitness setting by observing and assisting with classes taught by a professional personal fitness trainer.

Prerequisites: EXS 151 (minimum grade C) and EMS 100

Corequisites: EXS 152

**EXS 184 Yoga Internship****1 Credit. 0 Lecture Hour. 4 Lab Hours.**

Students apply yoga knowledge and skills in a practice setting by observing and assisting in classes taught by a certified Yoga Instructor.

Prerequisites: EXS 119 and admitted to the Yoga Teacher Training Certificate program

**EXS 185 Yoga Internship 2****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

Students apply yoga knowledge and skills in a practice setting by observing and assisting in classes taught by a certified Yoga Instructor.

Prerequisites: EXS 118 and EXS 184

Corequisites: EXS 119

**EXS 191 Part-Time Cooperative Education: Exercise Science****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EXS 250 and EMS 100 (minimum grade C for both), and instructor consent

Corequisites: EXS 260

Instructor Consent Required

**EXS 250 Exercise Physiology****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the human body's response and adaptations to exercise and physical training. Topics include: the influence of exercise on body systems, optimal physiological adaptations for improving fitness and performance, and testing and programming related to exercise and fitness.

Prerequisites: BIO 151 and ENG 101 and EXS 130 and MAT 105 (minimum grade C for all), and instructor consent

Instructor Consent Required

**EXS 251 Corrective Exercise Specialist****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course that prepares experienced fitness trainers/instructors to successfully prevent injuries and recondition clients of all levels, and to take the National Academy of Sports Medicine Corrective Exercise Specialist exam. Topics include: fundamentals of corrective exercise, and developing and implementing integrated strategies to improve common movement impairments.

Prerequisites: Currently enrolled in EXS 152, or earned Cincinnati State certificate in Personal Fitness Trainer or Group Fitness Instructor, or have a comparable current national accreditation or certification

Instructor Consent Required

**EXS 255 Anatomical Kinesiology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of human anatomy and motion as they relate to physical activity and skill performance. Topics include: the function of the skeletal, muscle, and nervous systems in generation and maintenance of human movement.

Prerequisites: EXS 130 (minimum grade C)

**EXS 260 Exercise Science Program Design****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills for identifying, assessing, designing, promoting, implementing, and evaluating programs for health and fitness in various settings. Topics include: needs assessment, funding, marketing, and using tools for evaluating program outcomes. Students in the course plan and deliver fitness classes.

Prerequisites: EXS 250 (minimum grade C)

Corequisites: EXS 294 or EXS 191

### **EXS 294 Internship: Exercise Science** **2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in an unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: EXS 250 and EMS 100 (minimum grade C for both), and instructor consent

Corequisites: EXS 260  
Instructor Consent Required

## **Group Fitness Instructor Certificate (GFIC)**

### **Group Fitness Instructor Certificate (GFIC)**

The Group Fitness Instructor Certificate prepares students for job activities such as designing safe classes for traditional and/or step aerobic exercises, scheduling classes, setting goals, and motivating participants.

Graduates are prepared to take a national certification examination to become a Certified Group Fitness Instructor. Graduates may work in health clubs, corporate fitness centers, aerobic studios, or recreation programs.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### **Group Fitness Instructor Certificate (GFIC)**

**Program Prerequisites:** Meet with Program Chair.

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
EMS 100	CPR and First Aid for the Health Care Professional	1	0	1
EXS 122	Group Fitness Instructor	3	2	4
<b>Total Credits:</b>		<b>4</b>	<b>2</b>	<b>5</b>

### **Faculty**

#### **Program Chair/Advisor**

Melinda (Mindy) Piles, MEd, ACSM EP-C, CPT  
[melinda.piles@cincinnati.edu](mailto:melinda.piles@cincinnati.edu)

## **Health and Fitness Special Populations Certificate (HFSPC)**

### **Health and Fitness Special Populations Certificate (HFSPC)**

The Health and Fitness Special Populations Certificate prepares students with a current certification in Personal Training, Group

Fitness, or Yoga Teacher Training to work in the field of exercise science with a range of individuals, including clients with chronic diseases, youth, older adults, and clients concerned with women's health.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## **Health and Fitness Special Populations Certificate (HFSPC)**

**Program Prerequisites:** Meet with Program Chair

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
EXS 130	Foundations of Health and Wellness Programs	2	2	3
EXS 164	Health and Fitness Across the Life Span 1	3	0	3
<b>Semester 2</b>				
EXS 168	Health and Fitness Across the Life Span 2	3	0	3
<b>Total Credits:</b>		<b>8</b>	<b>2</b>	<b>9</b>

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

### **Faculty**

#### **Program Chair/Advisor**

Melinda (Mindy) Piles, MEd, ACSM EP-C, CPT  
[melinda.piles@cincinnati.edu](mailto:melinda.piles@cincinnati.edu)

## **Personal Fitness Trainer Certificate (PFTC)**

### **Personal Fitness Trainer Certificate (PFTC)**

The Personal Fitness Trainer Certificate prepares students to develop safe fitness programs focused on health maintenance for healthy individuals.

Graduates may be employed by health clubs, fitness centers, or wellness centers. Job activities may include fitness testing, identifying risk factors, conducting individual and group exercise programs, counseling clients in behavior modification, and designing individualized fitness programs.

Graduates are prepared to take the American Council on Exercise (ACE) Certified Personal Trainer exam.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Personal Fitness Trainer Certificate (PFTC)

**Program Prerequisites:** ENG 085 and MAT 093 (minimum grade of C for both) or appropriate placement scores, and meet with Program Chair.

### First Year

Semester 1		Lec	Lat	Credits
FYE 1XX	First Year Experience Elective	1	0	1
EXS 130	Foundations of Health and Wellness Programs	2	2	3
EXS 151	Principles of Exercise Assessment and Prescription	2	2	3
DT 120	Nutrition for a Healthy Lifestyle	3	0	3
EMS 100	CPR and First Aid for the Health Care Professional	1	0	1
ENG 101	English Composition 1	3	0	3
<b>Semester 2</b>				
EXS 152	Exercise Programming	2	2	3
EXS 156	Establishing a Personal Training Business	3	0	3
EXS 182	Personal Fitness Trainer Practicum	1	7	2
EXS 255	Anatomical Kinesiology	3	0	3
PE 132	Resistance and Cardiorespiratory Training	0	2	1
COMM 1XX	Communications Elective	3	0	3
<b>Total Credits:</b>		24	15	29

### Electives

#### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

#### Communication Elective

COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3

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## Faculty

### Program Chair/Advisor

Melinda (Mindy) Piles, MEd, ACSM EP-C, CPT  
melinda.piles@cincinnati.edu

## Yoga Teacher Training Certificate (YIC)

### Yoga Teacher Training Certificate (YIC)

The Yoga Teacher Training Certificate prepares students to design yoga sequences for healthy adults, along with an introduction to designing yoga routines for children, pregnant women, and older adults. The certificate also covers other key aspects of yoga practice.

Graduates of the certificate program qualify for registration with the National Yoga Alliance as a Registered Yoga Teacher (RYT) at the 200-hour level.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Yoga Teacher Training Certificate (YIC)

**Program Prerequisites:** Meet with Program Chair

Semester 1		Lec	Lat	Credits
EXS 118	Yoga Teacher Training 1	2	2	3
EXS 184	Yoga Internship	1	2	2
<b>Semester 2</b>				
EXS 119	Yoga Teacher Training 2	2	2	3
EXS 185	Yoga Internship 2	1	2	2
<b>Total Credits:</b>		6	8	10

## Faculty

### Program Chair/Advisor

Melinda (Mindy) Piles, MEd, ACSM EP-C, CPT  
melinda.piles@cincinnati.edu

## Health Information Management Technologies (HIM, COC, & HITC)

### Health Information Management Technology (HIM)

The Health Information Management program at Cincinnati State focuses on the management of health care data and information resources.

Health Information Management professionals collect, integrate, and analyze primary and secondary health care data; disseminate information; and manage information resources related to the research, planning, provision, payment, and evaluation of health care services.

Graduates earn an Associate of Applied Science degree, and are prepared to take the national certification examination for registered health information technicians (RHIT) offered through the American Health Information Management Association. Students must have a minimum grade point average (GPA) of 2.00 to graduate.

All of the core courses in the Health Information Management program are offered online.

The HIM associate degree program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). Website: <http://www.cahiim.org>

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Coding Specialist Certificate (COC)

In many instances, financial reimbursement to patients or medical professionals for healthcare services is tied to the use of standard numeric coding systems. The Coding Specialist Certificate prepares students for entry-level positions applying these codes to healthcare records in hospitals, outpatient clinics, physician group practices, billing companies, and insurance companies.

Students learn to accurately determine code assignments using ICD and CPT coding systems.

Graduates of the certificate program may take an entry-level certification exam offered by the American Health Information Management Association (AHIMA). Successful completion of the exam earns the credential Certified Coding Associate (CCA).

Professional organizations that offer advanced certification recommend coding education along with experience in the field prior to pursuing certification. Individuals should evaluate their knowledge and experience prior to considering an advanced certification examination.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Health Information Technician Certificate (HITC)

The Health Information Technician Certificate provides students with knowledge and skills needed to perform the release-of-information function in a variety of healthcare settings, such as hospitals, physician practices, and long-term care facilities.

Students gain understanding of health record content and documentation requirements in accordance with state and federal

regulations. Students also work with computer applications such as electronic health record and release-of-information software.

Through practicum experience, students apply their knowledge and skills in a healthcare setting.

All of the certificate courses also apply to the associate's degree program in Health Information Management.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Health Information Management Technology (HIM)

Semester 1		Lec	Lat	Credits
FYE 1XX		1	0	1
First Year Experience Elective (B)				
HIM 100	Introduction to Health Information Management ( T )	3	0	3
HIM 105	Legal Aspects of Health Information Management ( T )	2	0	2
BIO 151	Anatomy and Physiology 1 ( G )	3	2	4
MAT 131	Statistics 1 ( G )	2	2	3
ENG 101	English Composition 1 ( G )	3	0	3
Semester 2				
HIM 115	Clinical Abstracting of Health Data ( T )	1	0	1
HIM 120	Health Information Technology Systems ( T )	3	0	3
BIO 152	Anatomy and Physiology 2 ( B )	3	2	4
MCH 1XX	Medical Terminology Elective (B)	3	0	3
IM 120	Electronic Spreadsheets: Microsoft Excel ( B )	2	3	3
Semester 3				
HIM 110	Healthcare Quality Management and Data Analysis ( T )	3	0	3
HIM 130	International Classification of Diseases (ICD) Coding ( T )	4	0	4
HIM 135	Pharmacology for Health Information Management ( T )	1	0	1
BIO 240	Pathophysiology ( B )	3	0	3
IM 109	Introductory Database Management: Microsoft Access ( B )	0	2	1
Semester 4				
HIM 200	Health Information Management Strategies ( T )	3	0	3
HIM 215	Advanced Medical Coding ( T )	4	0	4

HIM 226	Current Procedural Terminology (CPT) Coding 1 ( <b>T</b> )	2	0	2
PSY XXX	Psychology Elective ( <b>G</b> )	3	0	3
<b>Semester 5</b>				
HIM 220	Health Information Management Certification Exam Review ( <b>T</b> )	1	0	1
HIM 210	Healthcare Reimbursement Methodologies ( <b>T</b> )	3	0	3
HIM 227	Current Procedural Terminology (CPT) Coding 2 ( <b>T</b> )	2	0	2
HIM 280	Health Information Management Professional Practice ( <b>T</b> )	1	7	2
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
Total Credits:		59	18	65

### Electives

#### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

#### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

#### Psychology Elective

PSY 100	Applied Psychology: Human Relations	3
PSY 110	Introduction to Psychology	3

#### Medical Terminology Elective

MCH 104	Comprehensive Medical Terminology	3
MCH 101 & MCH 102	Medical Terminology 1 and Medical Terminology 2	4

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

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The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Coding Specialist Certificate (COC)

		Lec	Lat	Credits
<b>Semester 1</b>				
FYE 1XX	First Year Experience Elective	1	0	1
HIM 100	Introduction to Health Information Management	3	0	3
BIO 151	Anatomy and Physiology 1	3	2	4
<b>Semester 2</b>				
HIM 115	Clinical Abstracting of Health Data	1	0	1
BIO 152	Anatomy and Physiology 2	3	2	4
MCH 1XX	Medical Terminology Elective ( <b>T</b> )	3	0	3
<b>Semester 3</b>				
HIM 130	International Classification of Diseases (ICD) Coding	4	0	4
HIM 135	Pharmacology for Health Information Management	1	0	1
BIO 240	Pathophysiology	3	0	3
<b>Semester 4</b>				
HIM 215	Advanced Medical Coding	4	0	4
HIM 226	Current Procedural Terminology (CPT) Coding 1	2	0	2
<b>Semester 5</b>				
HIM 210	Healthcare Reimbursement Methodologies	3	0	3
HIM 227	Current Procedural Terminology (CPT) Coding 2	2	0	2
Total Credits:		33	4	35

### Electives

#### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

#### Medical Terminology Elective

MCH 104	Comprehensive Medical Terminology	3
MCH 101 & MCH 102	Medical Terminology 1 and Medical Terminology 2	4

## Health Information Technician Certificate (HITC)

		Lec	Lat	Credits
<b>First Year</b>				
<b>Semester 1</b>				
FYE 100	College Survival Skills	0	1	1
HIM 100	Introduction to Health Information Management	0	3	3
HIM 105	Legal Aspects of Health Information Management	2	0	2
MCH 101	Medical Terminology 1	0	2	2



**Semester 2**

HIM 115	Clinical Abstracting of Health Data	0	2	2
HIM 120	Health Information Technology Systems	3	0	3
MCH 102	Medical Terminology 2	2	0	2
HIM 180	Release of Information Practicum	0	7	1
Total Credits:		7	15	16

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

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## Health Information Management Technology (HIM)

- Apply diagnosis/procedure codes according to current guidelines.
- Apply diagnostic/procedural groupings.
- Verify the documentation in the health record is timely, complete, and accurate.
- Apply policies and procedures to ensure the accuracy and integrity of health data.
- Apply policies and procedures surrounding issues of access and disclosure of protected health information.
- Utilize software in the completion of HIM processes.
- Apply policies and procedures for the use of data required in healthcare reimbursement.
- Comply with ethical standards of practice.
- Demonstrate effective and professional written and verbal communication skills.

## Faculty

### Program Chair/Advisor

Cindy Kneip, RHIA  
cindy.kneip@cincinnatiastate.edu

## Courses

### HIM 100 Introduction to Health Information Management 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on key concepts of the health information management profession and health care documentation. Topics include: function, maintenance, storage, and processing of health records; and accreditation/regulatory requirements for health record documentation in acute and specialized care settings.

Prerequisites: ENG 085 or appropriate placement  
Instructor Consent Required

### HIM 105 Legal Aspects of Health Information Management 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on the health record as a legal document. Topics include: Health Insurance Portability and Accountability Act (HIPAA) regulations, release-of-information procedures, legal requirements for health record documentation, risk management, and physician credentialing.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

### HIM 110 Healthcare Quality Management and Data Analysis 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on fundamentals of quality improvement and data analysis in healthcare. Topics include: quality improvement activities, tools, and processes; healthcare data analysis and presentation; and calculation of healthcare statistics.

Prerequisites: HIM 100 (minimum grade C)

### HIM 115 Clinical Abstracting of Health Data 1 Credit. 1 Lecture Hour. 0 Lab Hour.

A course on abstracting supportive data used for clinical databases. Topics include: analyzing and interpreting health record documentation, establishing medical necessity for common diagnostic tests, Uniform Hospital Discharge Data Set (UHDDS) guidelines, and determining ICD-10-PCS root operations.

Prerequisites: HIM 100 (minimum grade C)

### HIM 120 Health Information Technology Systems 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on fundamentals of healthcare information systems, with focus on the electronic health record. Topics include: electronic health record applications, data security, health information exchange, and data governance.

Prerequisites: HIM 105 (minimum grade C)

### HIM 130 International Classification of Diseases (ICD) Coding 4 Credits. 4 Lecture Hours. 0 Lab Hour.

A course on principles of the ICD-10 classification system for disease and procedure coding. Topics include: coding for diseases and procedures associated with the endocrine, nervous, musculoskeletal, respiratory, and genitourinary body systems.

Prerequisites: BIO 152 and HIM 115

### HIM 135 Pharmacology for Health Information Management 1 Credit. 1 Lecture Hour. 0 Lab Hour.

A course on health information related to drug therapy. Topics include: principles of drug therapy, drug classes and schedules, modes of administration, and indications and adverse effects for the major drug classes.

Prerequisites: BIO 152 and MCH 104

### HIM 180 Release of Information Practicum 1 Credit. 0 Lecture Hour. 7 Lab Hours.

Students observe and participate in processes specific to the release of health information function performed in a community health care setting. Students also apply release of information principles to complete on-campus assignments and projects. Students must submit documentation for physical exam, immunization, background check, and proof of health insurance prior to the course start.

Prerequisites: HIM 100 and HIM 105

**HIM 191 Part-Time Cooperative Education 1: Health Information Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HIM 100 (minimum grade C)  
Instructor Consent Required

**HIM 200 Health Information Management Strategies**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental principles of healthcare management. Topics include: skills and methods for effective management of people, budgets, and projects; and roles of teams and committees.

Prerequisites: HIM 130 and HIM 110 and IM 109 (minimum grade C for all)

**HIM 210 Healthcare Reimbursement Methodologies**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on reimbursement systems for healthcare services. Topics include: payment systems for inpatient, ambulatory care, and alternative health care settings; compliance monitoring; and management of revenue cycle processes.

Prerequisites: HIM 215 and HIM 225 (minimum grade C for both)  
Ohio Transfer Assurance Guide Approved

**HIM 215 Advanced Medical Coding**

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on advanced principles of medical coding. Topics include: ICD-CM/PCS code assignment for inpatient records, Diagnostic Related Groups (DRG) assignment, and clinical documentation improvement processes.

Prerequisites: HIM 130 (minimum grade C)

**HIM 220 Health Information Management Certification Exam Review**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

Students review theory and practice in health information management to prepare for the national certification examination.

Prerequisites: HIM 105 and HIM 110 and HIM 225 and HIM 215 (minimum grade C for all)

**HIM 225 Current Procedural Terminology (CPT) Coding**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of the Current Procedural Terminology (CPT) coding system used to identify medical services and procedures performed by physicians. Topics include: coding for surgical procedures, radiology, pathology, anesthesiology, and laboratory, evaluation, and management services; and modifiers and Healthcare Procedure Coding System (HCPCS) Level II Codes.

Prerequisites: BIO 152

**HIM 226 Current Procedural Terminology (CPT) Coding 1**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on principles of the Current Procedural Terminology (CPT) coding system used to identify medical services and procedures performed by physicians. Topics include: CPT coding system conventions and guidelines, surgical procedure coding, and clinical documentation improvement processes for the ambulatory care setting.

Prerequisites: BIO 240 (minimum grade C)

**HIM 227 Current Procedural Terminology (CPT) Coding 2**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of HIM 226. Topics include CPT coding for surgical and non-surgical procedures and physician services, evaluation and management coding, and use of computer-assisted coding software. Prerequisites: HIM 226 (minimum grade C)

**HIM 280 Health Information Management Professional Practice**

**2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students observe and participate in the operational functions of a community health information management department or specialized health information management work setting. Students apply health information management principles to complete on-campus and clinical site assignments and projects.

Prerequisites: HIM 110 and HIM 120 and HIM 200 and HIM 215 and HIM 226 (minimum grade C for all)

**HIM 291 Full-time Cooperative Education 1: Health Information Management**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HIM 100 (minimum grade C)  
Instructor Consent Required

# Health Sciences Technology (HSCT)

## Health Sciences Technology (HSCT)

The Health Sciences Technology program at Cincinnati State offers a flexible curriculum designed to meet the changing needs of the healthcare field. Students are trained to perform multiple functions in more than one healthcare-related discipline, while working toward completion of an Associate of Applied Science degree.

To complete the associate's degree requirements, students combine certificate program coursework (chosen from the certificates listed in the curriculum) with core technical coursework in areas such as science, medical terminology, and professional standards. Students also complete courses in communication and other foundation skill areas.

Students must meet with an advisor before deciding on their areas of study.

Most program graduates are employed in a field related to one of their completed certificates.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

## Health Sciences Technology (HSCT)

Semester 1		Lec	Lat	Credits
MCH 100	Healthcare Informatics ( T )	2	0	2
ENG 101	English Composition 1 ( G )	3	0	3

XXX XXX Certificate Electives 1 (T)		4	2	5
MAT 105	Quantitative Reasoning ( G)	2	2	3
FYE 1XX First Year Experience Elective (B)		1	0	1
MCH 10X Medical Terminology Elective (T)		3	0	3
<b>Semester 2</b>				
COMM 110	Public Speaking ( B)	3	0	3
MCH 138	Patient Care Skills ( T)	1	3	2
ENG 10X English Composition Elective (G)		3	0	3
XXX XXX Certificate Electives 2 (T)		4	2	5
<b>Semester 3</b>				
EMS 100	CPR and First Aid for the Health Care Professional ( B)	1	0	1
PSY 110	Introduction to Psychology ( G)	3	0	3
BIO 151	Anatomy and Physiology 1 ( G)	3	2	4
XXX XXX Certificate Electives 3 (T)		4	2	5
MCH 108	Professionalism in Healthcare ( T)	3	0	3
<b>Semester 4</b>				
MCH 114	Law and Ethics for Healthcare ( T)	2	0	2
MCH 116	Cultural Competency for Health and Public Safety Professions ( T)	3	0	3
BIO 152	Anatomy and Physiology 2 ( B)	3	2	4
XXX XXX Certificate Electives 4 (T)		4	2	5
PSY XXX Psychology Elective (B)		3	0	3
Total Credits:		55	17	63

## Electives

### Medical Terminology Elective

MCH 101 & MCH 102	Medical Terminology 1 and Medical Terminology 2 (T)	4
MCH 104	Comprehensive Medical Terminology (T)	3

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2

FYE 110	Community College Experience	3
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### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3

### Psychology Elective

PSY 200	Abnormal Psychology	3
PSY 210	Adolescent Development	3
PSY 225	Lifespan Development	3

### Certificate Electives

Students must complete at least two of the following certificates and must earn a minimum of 20 credits in certificate courses that are not already required for the Health Sciences Technology degree. Other healthcare certificates (not listed below) may be used with the prior permission of the Health Sciences Technology Program Chair.

### Aquatic Group Fitness Instructor Certificate

HFT 128	4
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### Aquatic Personal Trainer Certificate

HFT 160	2
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### Coding Specialist Certificate

BIO 240	Pathophysiology	3
HIM 100	Introduction to Health Information Management	3
HIM 115	Clinical Abstracting of Health Data	2
HIM 130	International Classification of Diseases (ICD) Coding	4
HIM 135	Pharmacology for Health Information Management	1
HIM 210	Healthcare Reimbursement Methodologies	3
HIM 215	Advanced Medical Coding	4
HIM 225	Current Procedural Terminology (CPT) Coding	3

### Community Health Worker Certificate

CHW 100	Community Health Worker Training	4
CHW 180	Community Health Worker Practicum	3
MCH 106	Health and Wellness Promotion	2

### Electrocardiography (Basic) Certificate

MCH 141	Electrocardiography 1	3
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### Electrocardiography (Advanced) - Arrhythmia Recognition Certificate

MCH 142	Electrocardiography 2	4
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### Emergency Medical Technician Basic Certificate

EMS 110	Emergency Medical Technician Theory and Practice	7
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### Emergency Medical Technician Paramedic Certificate

EMS 110	Emergency Medical Technician Theory and Practice	7
EMS 120	Paramedic Anatomy and Physiology	3
EMS 211	Paramedic 1	7
EMS 212	Paramedic 2	6
EMS 213	Paramedic 3	6
EMS 221	Paramedic 1 Lab	1
EMS 231	Paramedic 1 Practicum	2
EMS 222	Paramedic 2 Lab	1

EMS 232	Paramedic 2 Practicum	3
EMS 223	Paramedic 3 Lab	1
EMS 233	Paramedic 3 Practicum	3
<b>Group Fitness Instructor Certificate</b>		
HFT 122		4
<b>Health and Fitness Special Populations Certificate</b>		
HFT 130		
HFT 164		3
HFT 168		3
<b>Health Unit Coordinator Certificate</b>		
MCH 110	Orientation to Health Records	3
MCH 120	Health Unit Coordinator Training	4
<b>Medical Assistant Certificate</b>		
BIO 117	Human Body in Health and Disease	3
MA 100	Clinical Procedures for Medical Assistants	4
MA 105		4
MA 110	Medical Office Laboratory Procedures	5
MA 115	Pharmacology for Medical Assistants	3
MA 120	Medical Office Insurance Coding and Billing	2
MA 125	Externship and Seminar for Medical Assistants	4
MCH 104	Comprehensive Medical Terminology	3
PSY 225	Lifespan Development	3
<b>Nurse Aide Training Certificate</b>		
MCH 130	Nurse Aide Training	4
<b>Patient Care Assistant Certificate</b>		
MCH 132	Patient Care Assistant Training	3
<b>Personal Fitness Trainer Certificate</b>		
HFT 151		
HFT 152		
HFT 156		3
HFT 182		2
<b>Pilates Mat Instructor Certificate</b>		
HFT 116		2
HFT 180		2
<b>Practical Nursing Certificate</b>		
PN 101	Practical Nursing Concepts 1	8
PN 102	Practical Nursing Concepts 2	10
PN 103	Practical Nursing Concepts 3	6
PN 185	Practical Nursing Role Transition	2
<b>Resistance Training Certificate</b>		
HFT 124		4

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Faculty

### Advisor

Lisa Lucas, MA

[lisa.lucas@cincinnatiatstate.edu](mailto:lisa.lucas@cincinnatiatstate.edu)

## Courses

### MCH 100 Healthcare Informatics

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on technology used in the healthcare delivery system and electronic health records (EHR) management. Topics include: hardware, software, user interfaces, telecommunications and networks, and health management information systems.

Prerequisites: IM 105 or 20 wpm keyboarding speed

### MCH 101 Medical Terminology 1

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the basic structure of medical words and abbreviations. Topics include: prefixes, suffixes, word roots, combining forms, and singulars and plurals.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Assurance Guide Approved

### MCH 102 Medical Terminology 2

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of MCH 101. Topics include: defining, pronouncing, and spelling medical terms using prefixes, suffixes, roots, and combined forms.

Prerequisites: MCH 101 (minimum grade C)

Ohio Transfer Assurance Guide Approved

### MCH 104 Comprehensive Medical Terminology

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A comprehensive study of medical terminology. Topics include: prefixes, suffixes, word roots, combining forms, singulars and plurals, and abbreviations associated with medical specialties.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Assurance Guide Approved

### MCH 106 Health and Wellness Promotion

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on promoting health and wellness issues to the public. Topics include: self-empowerment, stress reduction, physical fitness, healthy eating, addiction avoidance, identifying and reducing risk factors in disease, and alternative therapies.

Prerequisites: None

### MCH 108 Professionalism in Healthcare

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professional standards applicable in healthcare settings. Topics include: communication skills, employability skills, healthcare teams, diversity, career planning, and professional development.

Prerequisites: ENG 080 or appropriate placement

**MCH 110 Orientation to Health Records****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the content and format of health records. Topics include: standard forms, legal issues related to health records, maintaining health records, and filing and retrieving diagnostic reports.

Prerequisites: MCH 101 (minimum grade C), and IM 105 or appropriate keyboarding score

**MCH 112 Issues in Health Economics****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on current trends and concerns related to the economics of health care systems. Topics include: economic differences between medical care and other commodities.

Prerequisites: None

**MCH 114 Law and Ethics for Healthcare****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of medical jurisprudence and essentials of professional behavior in healthcare. Topics include: medical ethics, legal concerns in healthcare, and the healthcare provider's role as an agent of the physician.

Prerequisites: ENG 085 or appropriate placement

**MCH 116 Cultural Competency for Health and Public Safety Professions****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the influences of race, culture, and ethnicity in shaping values, belief systems, and behaviors of Health and Public Safety professionals and patients/clients.

Prerequisites: ENG 085 or appropriate placement

**MCH 118 Quality Improvement in Healthcare****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on quality improvement in healthcare, focused on patient-centered care. Topics include: organizations responsible for healthcare accreditation and regulation, healthcare provider departments that address regulations, and trends affecting delivery of quality healthcare services.

Prerequisites: ENG 085 or appropriate placement

**MCH 120 Health Unit Coordinator Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on skills required for entry-level medical clerical workers. Topics include: patient charts, transcribing nursing treatment, using computer software, medication, respiratory and physical therapy orders, X-ray and MRI scan procedures, nuclear medicine, ultrasound, and endoscopy.

Prerequisites: MCH 101 or MCH 104 (minimum grade C for either)

**MCH 130 Nurse Aide Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on caring for the elderly in long-term care facilities. Topics include: communication skills, mental health and social service needs, resident rights, activities of daily living, safety, and restorative services. Students who complete the course at 80% or above are qualified to take the Ohio Department of Health Competency Evaluation Test for a State Tested Nurse Aide (STNA).

Prerequisites: None

Instructor Consent Required

**MCH 132 Patient Care Assistant Training****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for employment in acute care facilities as nursing assistive personnel. Topics include: role definition/classification, communication, basic anatomy/physiology concepts with associated observations, overview of nutrition/diet therapy, introduction to common pathologies, and commonly delegated skills.

Prerequisites: ENG 085 or appropriate placement, and MCH 130, and on State Nurse Aide Registry or eligible for Registry  
Instructor Consent Required

**MCH 134 Medication Aide Training****6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course that prepares students to distribute medications in long-term care and residential care facilities, through a minimum of 80 hours of lecture and laboratory practice and 40 hours of clinical experience.

Prerequisites: MCH 130, and on State Nurse Aide Registry or have one year of experience in a residential care setting  
Instructor Consent Required

**MCH 136 Restorative Aide Training****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on rehabilitation services used to return individuals to optimal mobility and functioning following various conditions. Topics include: lifting, moving, and ambulation procedures; care of individuals with musculoskeletal, neurological, and integumentary conditions; and restorative approaches to meeting nutrition, hydration, and personal care needs.

Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry  
Instructor Consent Required

**MCH 138 Patient Care Skills****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on fundamental health care concepts and skills for students planning a career in healthcare. Topics include: basic body mechanics, patient draping techniques, infection control techniques, oxygen therapy, and problem solving techniques.

Prerequisites: None

**MCH 141 Electrocardiography 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on basic principles of electrocardiography. Topics include: the electrical conductive system of the heart, patient preparation, setting up the ECG machine, and recognizing and correcting distortion problems.

Prerequisites: BIO 100 or BIO 111 or BIO 151 (minimum grade C for all)

**MCH 142 Electrocardiography 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of MCH 141, including review of basic electrocardiography and 12 lead ECG interpretation. Topics include: cardiac electrophysiology, recognizing common dysrhythmia and advanced cardiac dysrhythmias, chamber enlargement, pacemakers, myocardial ischemia, injury, infarct patterns, and effects of drugs and electrolytes on the ECG.

Prerequisites: MCH 141 (minimum grade C), or certification in EMT, Paramedic, Nursing, or Practical Nursing

# Community Health Worker Certificate (CHWC)

## Community Health Worker Certificate (CHWC)

Community Health Workers are trained advocates in communities where they are connected by culture, language, or residence. They empower individuals to gain access to health and community resources through education, outreach, home visits, mentoring, and referrals.

The Community Health Worker Certificate prepares students to work in varied settings, including community-based health and social service agencies, and home visitation programs. Practicum experiences in the community are a major component of the certificate.

Graduates of the certificate program have diverse skills including interviewing, collecting data, obtaining vital signs, mentoring, providing client advocacy, providing referrals to community resources, care coordination, promoting basic health, and working with culturally diverse clients and community organizations.

Current CPR certification, up-to-date immunization verification, and a physical exam are required prior to practicum placement.

Upon successful completion of the program, graduates are qualified to apply to the Ohio Board of Nursing for a certificate to practice as a Certified Community Health Worker. A BCI (civilian) and FBI (federal) criminal records check is required by the Ohio Board of Nursing with the application for the certificate to practice.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnatiastate.edu/academics/admission/>) section of the College website.

## Community Health Worker Certificate (CHW)

**Program Prerequisite:** Student must meet with the program coordinator prior to enrolling in the program.

Semester 1		Lec	Lat	Credits
CHW 100	Community Health Worker Training	3	2	4
MCH 106	Health and Wellness Promotion	2	0	2
Semester 2				
MCH 116	Cultural Competency for Health and Public Safety Professions	3	0	3
CHW 180	Community Health Worker Practicum	1	8	3
Total Credits:		9	10	12

## Faculty

### Advisor

Lisa Lucas, MA

[lisa.lucas@cincinnatiastate.edu](mailto:lisa.lucas@cincinnatiastate.edu)

## Experiential Learning Coordinator

Jenny Boles, MSN, RN

[jennifer.boles@cincinnatiastate.edu](mailto:jennifer.boles@cincinnatiastate.edu)

## CHW Courses

### CHW 100 Community Health Worker Training 4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on the community health worker's role, skills, and responsibilities, using concepts and curriculum requirements defined by the Ohio Board of Nursing Community Health Worker (CHW) Program. Topics include: health data collection, basic anatomy and physiology, basic medical terminology, health education, client communication, confidentiality, community advocacy and referral, and documentation and reporting. Students who complete CHW 100 and CHW 180 successfully may apply for professional certification as a CHW.

Prerequisites: None

Instructor Consent Required

### CHW 180 Community Health Worker Practicum 3 Credits. 1 Lecture Hour. 8 Lab Hours.

Students complete 130 hours of clinical practice in a community agency or community health setting, performing functions of the community health worker under supervision of faculty and agency site supervisor, and attend a weekly on-campus seminar. Students who complete CHW 100 and CHW 180 successfully may apply for professional certification as a CHW.

Prerequisites: CHW 100, MCH 106 (minimum grade C for both)

Instructor Consent Required

## MCH Courses

### MCH 100 Healthcare Informatics 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on technology used in the healthcare delivery system and electronic health records (EHR) management. Topics include: hardware, software, user interfaces, telecommunications and networks, and health management information systems.

Prerequisites: IM 105 or 20 wpm keyboarding speed

### MCH 101 Medical Terminology 1 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on the basic structure of medical words and abbreviations. Topics include: prefixes, suffixes, word roots, combining forms, and singulars and plurals.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Assurance Guide Approved

### MCH 102 Medical Terminology 2 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A continuation of MCH 101. Topics include: defining, pronouncing, and spelling medical terms using prefixes, suffixes, roots, and combined forms.

Prerequisites: MCH 101 (minimum grade C)

Ohio Transfer Assurance Guide Approved

**MCH 104 Comprehensive Medical Terminology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A comprehensive study of medical terminology. Topics include: prefixes, suffixes, word roots, combining forms, singulars and plurals, and abbreviations associated with medical specialties.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

**MCH 106 Health and Wellness Promotion****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on promoting health and wellness issues to the public. Topics include: self-empowerment, stress reduction, physical fitness, healthy eating, addiction avoidance, identifying and reducing risk factors in disease, and alternative therapies.

Prerequisites: None

**MCH 108 Professionalism in Healthcare****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professional standards applicable in healthcare settings. Topics include: communication skills, employability skills, healthcare teams, diversity, career planning, and professional development.

Prerequisites: ENG 080 or appropriate placement

**MCH 110 Orientation to Health Records****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the content and format of health records. Topics include: standard forms, legal issues related to health records, maintaining health records, and filing and retrieving diagnostic reports.

Prerequisites: MCH 101 (minimum grade C), and IM 105 or appropriate keyboarding score

**MCH 112 Issues in Health Economics****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on current trends and concerns related to the economics of health care systems. Topics include: economic differences between medical care and other commodities.

Prerequisites: None

**MCH 114 Law and Ethics for Healthcare****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of medical jurisprudence and essentials of professional behavior in healthcare. Topics include: medical ethics, legal concerns in healthcare, and the healthcare provider's role as an agent of the physician.

Prerequisites: ENG 085 or appropriate placement

**MCH 116 Cultural Competency for Health and Public Safety Professions****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the influences of race, culture, and ethnicity in shaping values, belief systems, and behaviors of Health and Public Safety professionals and patients/clients.

Prerequisites: ENG 085 or appropriate placement

**MCH 118 Quality Improvement in Healthcare****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on quality improvement in healthcare, focused on patient-centered care. Topics include: organizations responsible for healthcare accreditation and regulation, healthcare provider departments that address regulations, and trends affecting delivery of quality healthcare services.

Prerequisites: ENG 085 or appropriate placement

**MCH 120 Health Unit Coordinator Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on skills required for entry-level medical clerical workers. Topics include: patient charts, transcribing nursing treatment, using computer software, medication, respiratory and physical therapy orders, X-ray and MRI scan procedures, nuclear medicine, ultrasound, and endoscopy.

Prerequisites: MCH 101 or MCH 104 (minimum grade C for either)

**MCH 130 Nurse Aide Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on caring for the elderly in long-term care facilities. Topics include: communication skills, mental health and social service needs, resident rights, activities of daily living, safety, and restorative services. Students who complete the course at 80% or above are qualified to take the Ohio Department of Health Competency Evaluation Test for a State Tested Nurse Aide (STNA).

Prerequisites: None

Instructor Consent Required

**MCH 132 Patient Care Assistant Training****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for employment in acute care facilities as nursing assistive personnel. Topics include: role definition/classification, communication, basic anatomy/physiology concepts with associated observations, overview of nutrition/diet therapy, introduction to common pathologies, and commonly delegated skills.

Prerequisites: ENG 085 or appropriate placement, and MCH 130, and on State Nurse Aide Registry or eligible for Registry

Instructor Consent Required

**MCH 134 Medication Aide Training****6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course that prepares students to distribute medications in long-term care and residential care facilities, through a minimum of 80 hours of lecture and laboratory practice and 40 hours of clinical experience.

Prerequisites: MCH 130, and on State Nurse Aide Registry or have one year of experience in a residential care setting

Instructor Consent Required

**MCH 136 Restorative Aide Training****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on rehabilitation services used to return individuals to optimal mobility and functioning following various conditions. Topics include: lifting, moving, and ambulation procedures; care of individuals with musculoskeletal, neurological, and integumentary conditions; and restorative approaches to meeting nutrition, hydration, and personal care needs.

Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry

Instructor Consent Required

**MCH 138 Patient Care Skills****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on fundamental health care concepts and skills for students planning a career in healthcare. Topics include: basic body mechanics, patient draping techniques, infection control techniques, oxygen therapy, and problem solving techniques.

Prerequisites: None

**MCH 141 Electrocardiography 1**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on basic principles of electrocardiography. Topics include: the electrical conductive system of the heart, patient preparation, setting up the ECG machine, and recognizing and correcting distortion problems.

Prerequisites: BIO 100 or BIO 111 or BIO 151 (minimum grade C for all)

**MCH 142 Electrocardiography 2**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of MCH 141, including review of basic electrocardiography and 12 lead ECG interpretation. Topics include: cardiac electrophysiology, recognizing common dysrhythmia and advanced cardiac dysrhythmias, chamber enlargement, pacemakers, myocardial ischemia, injury, infarct patterns, and effects of drugs and electrolytes on the ECG.

Prerequisites: MCH 141 (minimum grade C), or certification in EMT, Paramedic, Nursing, or Practical Nursing

## Electrocardiography (Advanced) - Arrhythmia Recognition Certificate (ECGAC)

### Electrocardiography (Advanced) - Arrhythmia Recognition Certificate (ECGAC)

The Advanced Electrocardiography Certificate expands the skills gained through the Basic ECG certificate with special emphasis on analyzing 12 lead ECG changes.

Students review basic ECG principles, and then learn to interpret various types of atrial and ventricular dysrhythmias, such as chamber enlargement, conduction defects, and perfusion disturbance patterns.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Electrocardiography (Advanced) - Arrhythmia Recognition Certificate (ECGAC)

**Program Prerequisite:** MCH 141 Electrocardiography 1.

Semester 1		Lec	Lat	Credits
MCH 142	Electrocardiography 2	3	2	4
Total Credits:		3	2	4

**Faculty**

**Advisor**

Lisa Lucas, MA  
lisa.lucas@cincinnati.edu

## Courses

**MCH 100 Healthcare Informatics**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on technology used in the healthcare delivery system and electronic health records (EHR) management. Topics include: hardware, software, user interfaces, telecommunications and networks, and health management information systems.

Prerequisites: IM 105 or 20 wpm keyboarding speed

**MCH 101 Medical Terminology 1**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the basic structure of medical words and abbreviations. Topics include: prefixes, suffixes, word roots, combining forms, and singulars and plurals.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

**MCH 102 Medical Terminology 2**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of MCH 101. Topics include: defining, pronouncing, and spelling medical terms using prefixes, suffixes, roots, and combined forms.

Prerequisites: MCH 101 (minimum grade C)  
Ohio Transfer Assurance Guide Approved

**MCH 104 Comprehensive Medical Terminology**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A comprehensive study of medical terminology. Topics include: prefixes, suffixes, word roots, combining forms, singulars and plurals, and abbreviations associated with medical specialties.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

**MCH 106 Health and Wellness Promotion**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on promoting health and wellness issues to the public. Topics include: self-empowerment, stress reduction, physical fitness, healthy eating, addiction avoidance, identifying and reducing risk factors in disease, and alternative therapies.

Prerequisites: None

**MCH 108 Professionalism in Healthcare**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professional standards applicable in healthcare settings. Topics include: communication skills, employability skills, healthcare teams, diversity, career planning, and professional development.

Prerequisites: ENG 080 or appropriate placement

**MCH 110 Orientation to Health Records**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the content and format of health records. Topics include: standard forms, legal issues related to health records, maintaining health records, and filing and retrieving diagnostic reports.

Prerequisites: MCH 101 (minimum grade C), and IM 105 or appropriate keyboarding score

**MCH 112 Issues in Health Economics**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on current trends and concerns related to the economics of health care systems. Topics include: economic differences between medical care and other commodities.

Prerequisites: None



**MCH 114 Law and Ethics for Healthcare****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of medical jurisprudence and essentials of professional behavior in healthcare. Topics include: medical ethics, legal concerns in healthcare, and the healthcare provider's role as an agent of the physician.

Prerequisites: ENG 085 or appropriate placement

**MCH 116 Cultural Competency for Health and Public Safety Professions****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the influences of race, culture, and ethnicity in shaping values, belief systems, and behaviors of Health and Public Safety professionals and patients/clients.

Prerequisites: ENG 085 or appropriate placement

**MCH 118 Quality Improvement in Healthcare****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on quality improvement in healthcare, focused on patient-centered care. Topics include: organizations responsible for healthcare accreditation and regulation, healthcare provider departments that address regulations, and trends affecting delivery of quality healthcare services.

Prerequisites: ENG 085 or appropriate placement

**MCH 120 Health Unit Coordinator Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on skills required for entry-level medical clerical workers. Topics include: patient charts, transcribing nursing treatment, using computer software, medication, respiratory and physical therapy orders, X-ray and MRI scan procedures, nuclear medicine, ultrasound, and endoscopy.

Prerequisites: MCH 101 or MCH 104 (minimum grade C for either)

**MCH 130 Nurse Aide Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on caring for the elderly in long-term care facilities. Topics include: communication skills, mental health and social service needs, resident rights, activities of daily living, safety, and restorative services. Students who complete the course at 80% or above are qualified to take the Ohio Department of Health Competency Evaluation Test for a State Tested Nurse Aide (STNA).

Prerequisites: None

Instructor Consent Required

**MCH 132 Patient Care Assistant Training****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for employment in acute care facilities as nursing assistive personnel. Topics include: role definition/classification, communication, basic anatomy/physiology concepts with associated observations, overview of nutrition/diet therapy, introduction to common pathologies, and commonly delegated skills.

Prerequisites: ENG 085 or appropriate placement, and MCH 130, and on State Nurse Aide Registry or eligible for Registry

Instructor Consent Required

**MCH 134 Medication Aide Training****6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course that prepares students to distribute medications in long-term care and residential care facilities, through a minimum of 80 hours of lecture and laboratory practice and 40 hours of clinical experience.

Prerequisites: MCH 130, and on State Nurse Aide Registry or have one year of experience in a residential care setting

Instructor Consent Required

**MCH 136 Restorative Aide Training****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on rehabilitation services used to return individuals to optimal mobility and functioning following various conditions. Topics include: lifting, moving, and ambulation procedures; care of individuals with musculoskeletal, neurological, and integumentary conditions; and restorative approaches to meeting nutrition, hydration, and personal care needs.

Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry

Instructor Consent Required

**MCH 138 Patient Care Skills****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on fundamental health care concepts and skills for students planning a career in healthcare. Topics include: basic body mechanics, patient draping techniques, infection control techniques, oxygen therapy, and problem solving techniques.

Prerequisites: None

**MCH 141 Electrocardiography 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on basic principles of electrocardiography. Topics include: the electrical conductive system of the heart, patient preparation, setting up the ECG machine, and recognizing and correcting distortion problems.

Prerequisites: BIO 100 or BIO 111 or BIO 151 (minimum grade C for all)

**MCH 142 Electrocardiography 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of MCH 141, including review of basic electrocardiography and 12 lead ECG interpretation. Topics include: cardiac electrophysiology, recognizing common dysrhythmia and advanced cardiac dysrhythmias, chamber enlargement, pacemakers, myocardial ischemia, injury, infarct patterns, and effects of drugs and electrolytes on the ECG.

Prerequisites: MCH 141 (minimum grade C), or certification in EMT, Paramedic, Nursing, or Practical Nursing

## Electrocardiography (Basic) Certificate (ECGBC)

### Electrocardiography (Basic) Certificate (ECGBC)

Students who successfully complete the Basic Electrocardiography course will receive a certificate of completion.

Students learn the basic principles of electrocardiography, including understanding the electrical conductive system of the heart, interpreting basic ECG rhythm, preparing the patient and the equipment, and recognizing and correcting distortion problems.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Electrocardiography (Basic) Certificate (ECGBC)

**Program Prerequisite:** BIO 111 Biology: Unity of Life (minimum grade C)

Semester 1		Lec	Lab	Credits
MCH 141	Electrocardiography 1	2	2	3
Total Credits:		2	2	3

### Faculty

#### Advisor

Lisa Lucas, MA  
lisa.lucas@cincinnati.state.edu

### Courses

#### MCH 100 Healthcare Informatics

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on technology used in the healthcare delivery system and electronic health records (EHR) management. Topics include: hardware, software, user interfaces, telecommunications and networks, and health management information systems.  
Prerequisites: IM 105 or 20 wpm keyboarding speed

#### MCH 101 Medical Terminology 1

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the basic structure of medical words and abbreviations. Topics include: prefixes, suffixes, word roots, combining forms, and singulars and plurals.  
Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

#### MCH 102 Medical Terminology 2

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of MCH 101. Topics include: defining, pronouncing, and spelling medical terms using prefixes, suffixes, roots, and combined forms.  
Prerequisites: MCH 101 (minimum grade C)  
Ohio Transfer Assurance Guide Approved

#### MCH 104 Comprehensive Medical Terminology

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A comprehensive study of medical terminology. Topics include: prefixes, suffixes, word roots, combining forms, singulars and plurals, and abbreviations associated with medical specialties.  
Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

#### MCH 106 Health and Wellness Promotion

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on promoting health and wellness issues to the public. Topics include: self-empowerment, stress reduction, physical fitness, healthy eating, addiction avoidance, identifying and reducing risk factors in disease, and alternative therapies.  
Prerequisites: None

#### MCH 108 Professionalism in Healthcare

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professional standards applicable in healthcare settings. Topics include: communication skills, employability skills, healthcare teams, diversity, career planning, and professional development.  
Prerequisites: ENG 080 or appropriate placement

#### MCH 110 Orientation to Health Records

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the content and format of health records. Topics include: standard forms, legal issues related to health records, maintaining health records, and filing and retrieving diagnostic reports.  
Prerequisites: MCH 101 (minimum grade C), and IM 105 or appropriate keyboarding score

#### MCH 112 Issues in Health Economics

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on current trends and concerns related to the economics of health care systems. Topics include: economic differences between medical care and other commodities.  
Prerequisites: None

#### MCH 114 Law and Ethics for Healthcare

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of medical jurisprudence and essentials of professional behavior in healthcare. Topics include: medical ethics, legal concerns in healthcare, and the healthcare provider's role as an agent of the physician.  
Prerequisites: ENG 085 or appropriate placement

#### MCH 116 Cultural Competency for Health and Public Safety Professions

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the influences of race, culture, and ethnicity in shaping values, belief systems, and behaviors of Health and Public Safety professionals and patients/clients.  
Prerequisites: ENG 085 or appropriate placement

#### MCH 118 Quality Improvement in Healthcare

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on quality improvement in healthcare, focused on patient-centered care. Topics include: organizations responsible for healthcare accreditation and regulation, healthcare provider departments that address regulations, and trends affecting delivery of quality healthcare services.  
Prerequisites: ENG 085 or appropriate placement

#### MCH 120 Health Unit Coordinator Training

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on skills required for entry-level medical clerical workers. Topics include: patient charts, transcribing nursing treatment, using computer software, medication, respiratory and physical therapy orders, X-ray and MRI scan procedures, nuclear medicine, ultrasound, and endoscopy.  
Prerequisites: MCH 101 or MCH 104 (minimum grade C for either)

**MCH 130 Nurse Aide Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on caring for the elderly in long-term care facilities. Topics include: communication skills, mental health and social service needs, resident rights, activities of daily living, safety, and restorative services. Students who complete the course at 80% or above are qualified to take the Ohio Department of Health Competency Evaluation Test for a State Tested Nurse Aide (STNA).

Prerequisites: None

Instructor Consent Required

**MCH 132 Patient Care Assistant Training****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for employment in acute care facilities as nursing assistive personnel. Topics include: role definition/classification, communication, basic anatomy/physiology concepts with associated observations, overview of nutrition/diet therapy, introduction to common pathologies, and commonly delegated skills.

Prerequisites: ENG 085 or appropriate placement, and MCH 130, and on State Nurse Aide Registry or eligible for Registry

Instructor Consent Required

**MCH 134 Medication Aide Training****6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course that prepares students to distribute medications in long-term care and residential care facilities, through a minimum of 80 hours of lecture and laboratory practice and 40 hours of clinical experience.

Prerequisites: MCH 130, and on State Nurse Aide Registry or have one year of experience in a residential care setting

Instructor Consent Required

**MCH 136 Restorative Aide Training****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on rehabilitation services used to return individuals to optimal mobility and functioning following various conditions. Topics include: lifting, moving, and ambulation procedures; care of individuals with musculoskeletal, neurological, and integumentary conditions; and restorative approaches to meeting nutrition, hydration, and personal care needs.

Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry

Instructor Consent Required

**MCH 138 Patient Care Skills****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on fundamental health care concepts and skills for students planning a career in healthcare. Topics include: basic body mechanics, patient draping techniques, infection control techniques, oxygen therapy, and problem solving techniques.

Prerequisites: None

**MCH 141 Electrocardiography 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on basic principles of electrocardiography. Topics include: the electrical conductive system of the heart, patient preparation, setting up the ECG machine, and recognizing and correcting distortion problems.

Prerequisites: BIO 100 or BIO 111 or BIO 151 (minimum grade C for all)

**MCH 142 Electrocardiography 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of MCH 141, including review of basic electrocardiography and 12 lead ECG interpretation. Topics include: cardiac electrophysiology, recognizing common dysrhythmia and advanced cardiac dysrhythmias, chamber enlargement, pacemakers, myocardial ischemia, injury, infarct patterns, and effects of drugs and electrolytes on the ECG.

Prerequisites: MCH 141 (minimum grade C), or certification in EMT, Paramedic, Nursing, or Practical Nursing

## Health Unit Coordinator Certificate (UCMR)

### Health Unit Coordinator Certificate (UCMR)

The Health Unit Coordinator certificate helps students develop marketable skills as entry-level medical clerical workers. Job duties include assembling and maintaining patient charts; processing doctors' orders; processing admissions, transfers, and discharges; and scheduling diagnostic procedures.

The certificate program includes online coursework covering Health Unit Coordinator procedures and communication skills (about 85% of the program), as well as unpaid, on-site clinical observation at an area healthcare organization.

The Health Unit Coordinator program meets the standards of education as published by the National Association of Health Unit Coordinators. The program qualifies students to take the national certification exam for Health Unit Coordinators.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Health Unit Coordinator Certificate (UMCR)

**Program Prerequisites:** ENG 085 Applications of College Reading and Writing or appropriate placement test score, IM 105 Keyboarding Skills or appropriate keyboarding score.

Semester 1		Lec	Lat	Credits
MCH 104	Comprehensive Medical Terminology*	3	0	3
Semester 2				
MCH 110	Orientation to Health Records	3	0	3
MCH 120	Health Unit Coordinator Training	3	2	4
Total Credits:		9	2	10

\* May take MCH 101 Medical Terminology 1 and MCH 102 Medical Terminology 2 (minimum grade C for both) in place of MCH 104.

## Faculty

### Advisor

Lisa Lucas, MA  
lisa.lucas@cincinnatiastate.edu

### Clinical Coordinator

Jenny Boles, MSN, RN  
jennifer.boles@cincinnatiastate.edu

## Courses

### MCH 100 Healthcare Informatics

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on technology used in the healthcare delivery system and electronic health records (EHR) management. Topics include: hardware, software, user interfaces, telecommunications and networks, and health management information systems.

Prerequisites: IM 105 or 20 wpm keyboarding speed

### MCH 101 Medical Terminology 1

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the basic structure of medical words and abbreviations. Topics include: prefixes, suffixes, word roots, combining forms, and singulars and plurals.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Assurance Guide Approved

### MCH 102 Medical Terminology 2

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of MCH 101. Topics include: defining, pronouncing, and spelling medical terms using prefixes, suffixes, roots, and combined forms.

Prerequisites: MCH 101 (minimum grade C)

Ohio Transfer Assurance Guide Approved

### MCH 104 Comprehensive Medical Terminology

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A comprehensive study of medical terminology. Topics include: prefixes, suffixes, word roots, combining forms, singulars and plurals, and abbreviations associated with medical specialties.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Assurance Guide Approved

### MCH 106 Health and Wellness Promotion

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on promoting health and wellness issues to the public. Topics include: self-empowerment, stress reduction, physical fitness, healthy eating, addiction avoidance, identifying and reducing risk factors in disease, and alternative therapies.

Prerequisites: None

### MCH 108 Professionalism in Healthcare

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professional standards applicable in healthcare settings. Topics include: communication skills, employability skills, healthcare teams, diversity, career planning, and professional development.

Prerequisites: ENG 080 or appropriate placement

### MCH 110 Orientation to Health Records

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the content and format of health records. Topics include: standard forms, legal issues related to health records, maintaining health records, and filing and retrieving diagnostic reports.

Prerequisites: MCH 101 (minimum grade C), and IM 105 or appropriate keyboarding score

### MCH 112 Issues in Health Economics

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on current trends and concerns related to the economics of health care systems. Topics include: economic differences between medical care and other commodities.

Prerequisites: None

### MCH 114 Law and Ethics for Healthcare

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of medical jurisprudence and essentials of professional behavior in healthcare. Topics include: medical ethics, legal concerns in healthcare, and the healthcare provider's role as an agent of the physician.

Prerequisites: ENG 085 or appropriate placement

### MCH 116 Cultural Competency for Health and Public Safety Professions

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the influences of race, culture, and ethnicity in shaping values, belief systems, and behaviors of Health and Public Safety professionals and patients/clients.

Prerequisites: ENG 085 or appropriate placement

### MCH 118 Quality Improvement in Healthcare

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on quality improvement in healthcare, focused on patient-centered care. Topics include: organizations responsible for healthcare accreditation and regulation, healthcare provider departments that address regulations, and trends affecting delivery of quality healthcare services.

Prerequisites: ENG 085 or appropriate placement

### MCH 120 Health Unit Coordinator Training

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on skills required for entry-level medical clerical workers. Topics include: patient charts, transcribing nursing treatment, using computer software, medication, respiratory and physical therapy orders, X-ray and MRI scan procedures, nuclear medicine, ultrasound, and endoscopy.

Prerequisites: MCH 101 or MCH 104 (minimum grade C for either)

### MCH 130 Nurse Aide Training

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on caring for the elderly in long-term care facilities. Topics include: communication skills, mental health and social service needs, resident rights, activities of daily living, safety, and restorative services. Students who complete the course at 80% or above are qualified to take the Ohio Department of Health Competency Evaluation Test for a State Tested Nurse Aide (STNA).

Prerequisites: None

Instructor Consent Required

**MCH 132 Patient Care Assistant Training****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for employment in acute care facilities as nursing assistive personnel. Topics include: role definition/classification, communication, basic anatomy/physiology concepts with associated observations, overview of nutrition/diet therapy, introduction to common pathologies, and commonly delegated skills.

Prerequisites: ENG 085 or appropriate placement, and MCH 130, and on State Nurse Aide Registry or eligible for Registry  
Instructor Consent Required

**MCH 134 Medication Aide Training****6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course that prepares students to distribute medications in long-term care and residential care facilities, through a minimum of 80 hours of lecture and laboratory practice and 40 hours of clinical experience.

Prerequisites: MCH 130, and on State Nurse Aide Registry or have one year of experience in a residential care setting  
Instructor Consent Required

**MCH 136 Restorative Aide Training****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on rehabilitation services used to return individuals to optimal mobility and functioning following various conditions. Topics include: lifting, moving, and ambulation procedures; care of individuals with musculoskeletal, neurological, and integumentary conditions; and restorative approaches to meeting nutrition, hydration, and personal care needs.

Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry  
Instructor Consent Required

**MCH 138 Patient Care Skills****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on fundamental health care concepts and skills for students planning a career in healthcare. Topics include: basic body mechanics, patient draping techniques, infection control techniques, oxygen therapy, and problem solving techniques.

Prerequisites: None

**MCH 141 Electrocardiography 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on basic principles of electrocardiography. Topics include: the electrical conductive system of the heart, patient preparation, setting up the ECG machine, and recognizing and correcting distortion problems.

Prerequisites: BIO 100 or BIO 111 or BIO 151 (minimum grade C for all)

**MCH 142 Electrocardiography 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of MCH 141, including review of basic electrocardiography and 12 lead ECG interpretation. Topics include: cardiac electrophysiology, recognizing common dysrhythmia and advanced cardiac dysrhythmias, chamber enlargement, pacemakers, myocardial ischemia, injury, infarct patterns, and effects of drugs and electrolytes on the ECG.

Prerequisites: MCH 141 (minimum grade C), or certification in EMT, Paramedic, Nursing, or Practical Nursing

## Medical Assistant Certificate (MAC)

### Medical Assistant Certificate (MAC)

Medical assistants are multi-skilled professionals who perform administrative, clinical, and management functions in medical practice organizations.

The Medical Assistant certificate prepares students to work in physicians' offices providing patient care, performing administrative tasks, and managing the medical office. Job responsibilities may include:

- Administrative tasks such as scheduling appointments, handling correspondence, maintaining and filing patient records, billing, bookkeeping, and completing insurance forms
- Clinical tasks including taking and recording medical histories, preparing patients for examinations, assisting with examinations and office surgeries, measuring vital signs, performing therapeutic and diagnostic tests, and giving injections
- Management tasks related to patient care, office personnel, and physician time

Medical Assistant students complete supervised clinical practice, including 160 hours of unpaid practicum experience, to develop their medical assisting competencies. Students who complete the program successfully are eligible to take the examination to become a Certified Medical Assistant (CMA).

The Cincinnati State Medical Assistant Certificate program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of the Medical Assisting Education Review Board (MAERB).

The Commission on Accreditation of Allied Health Education Programs is located at 25400 US Highway 19 N., Suite 158 Clearwater, FL 33763. Phone 727-210-2350. Website: <http://www.caahep.org>.

The program's curriculum is guided by the standards developed by the Commission. The accreditation status means Cincinnati State has met the standards required of the profession and helps to assure the public that program graduates are competent clinicians. It also qualifies the College's Medical Assistant Certificate graduates to sit for the CMA (AAMA) certification examination.

Verification of accreditation can be viewed at the CAAHEP website: <https://www.caahep.org/Students/Find-a-Program.aspx>.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Medical Assistant Certificate (MAC)

Semester 1		Lec	Lab	Credits
MA 100	Clinical Procedures for Medical Assistants	3	3	4

MA 109	Administrative Procedures, Coding, and Billing for Medical Assisting	2	0	2
MCH 104	Comprehensive Medical Terminology	3	0	3
BIO 117	Human Body in Health and Disease	3	0	3
ENG 101	English Composition 1	3	0	3
<b>Semester 2</b>				
MA 110	Medical Office Laboratory Procedures	3	4	5
MA 115	Pharmacology for Medical Assistants	3	0	3
PSY 110	Introduction to Psychology	3	0	3
MCH 100	Healthcare Informatics	2	0	2
<b>Semester 3</b>				
MA 125	Externship and Seminar for Medical Assistants	2	12	4
Total Credits:		27	19	32

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Program Chair/Advisor

Patricia Christos, MA  
patricia.christos@cincinnatiastate.edu

### Advisor

Athealia Bell, EdD  
athealia.bell@cincinnatiastate.edu

## Courses

### MA 100 Clinical Procedures for Medical Assistants

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on concepts and skills for assisting the physician in a clinical office setting. Topics include: infection control, patient preparation and history taking, assisting with examinations, preparing and maintaining the examination room, and assisting in medical specialty procedures and tests.

Prerequisites: Medical Assisting Program Chair consent  
Instructor Consent Required

### MA 109 Administrative Procedures, Coding, and Billing for Medical Assisting

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on administrative duties that may be performed by a Medical Assistant in a physician's office, receptionist area, or administrative area in a healthcare setting. Topics include: billing and coding procedures for the Medical Assistant.

Prerequisites: ENG 080 or appropriate placement  
Instructor Consent Required

### MA 110 Medical Office Laboratory Procedures

**5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on concepts and skills for acquisition of samples and assessment of various diagnostic evaluations. Topics include: using laboratory equipment; maintaining quality assurance and quality control; collecting specimens; and carrying out procedures including hematology, serology, urinalysis, and chemistry.

Prerequisites: BIO 111, MA 100, MA 105 (minimum grade C for all)

### MA 115 Pharmacology for Medical Assistants

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on clinical drug therapy in relation to the role of the medical assistant. Topics include: principles, terminology, modes of administration, and mechanisms of action of the major drug groups; drug interactions; and administration of various injection routes.

Prerequisites: BIO 111, MA 100, MA 105 (minimum grade C for all)

### MA 120 Medical Office Insurance Coding and Billing

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on procedures and regulations related to bookkeeping, accounting, and insurance in the medical office setting. Topics include: using superbills; coding claims using CPT, ICD-9-CM, and HCPCS; electronic claims filing; and billing, collection, and reimbursement systems.

Prerequisites: MA 100, MA 105, MCH 100 (minimum grade C for all)

### MA 125 Externship and Seminar for Medical Assistants

**4 Credits. 2 Lecture Hours. 12 Lab Hours.**

Students practice administrative and clinical skills during an unpaid experience in an ambulatory care setting. Students also prepare for the AAMA exam to become a Certified Medical Assistant.

Prerequisites: MA 109 and MA 115 (minimum grade C for both)

# Nurse Aide Training Certificate (NATC)

## Nurse Aide Training Certificate (NATC)

The Nurse Aide Training Certificate program is approved by the Ohio Department of Health. The program provides the skills needed to care for residents in a long-term care facility. These skills include Activities of Daily Living (ADLs) and lifting safely without injury to self or residents.

Students practice these skills in lab (a simulated patient room) and then apply the skills during their clinical rotation in a long-term care facility, with guidance from RN instructors.

The Nurse Aide Training Certificate is offered at the Cincinnati State Clifton campus, the Middletown campus, and the Evendale campus (Workforce Development Center).

Upon successful completion of the certificate program, students are eligible to take the Nurse Aide Training and Competency Evaluation exam offered by the Ohio Department of Health to become a State Tested Nurse Aide (STNA).

Other requirements for admitted students include:

- Valid two-step TB test results must be presented.
- A social security card with the student's correct name and a state picture ID with correct information must be presented on the first day of class and at the time of state testing.
- Books are required on the first day of class.

- Students must meet a strict attendance policy, as required by the Ohio Department of Health.
- Students must wear hunter green scrubs as their required uniform during clinical experiences in a long-term care facility.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Nurse Aide Training Certificate (NATC)

- **Program Prerequisites:** Must be at least 16 years old. To be admitted to this program, students must submit an application including a 2-step TB test. The 2-step TB test must be completed no more than 12 months prior to the semester the student is enrolled in MCH 130. A 12th grade or higher reading level is recommended.

The application and instructions are available at [www.cincinnati.edu/nurseaide](http://www.cincinnati.edu/nurseaide) (<http://www.cincinnati.edu/nurseaide/>).

Semester 1		Lec	Lat	Credits
MCH 130	Nurse Aide Training ( T )	3	2	4
Total Credits:		3	2	4

## Faculty

### Advisor/Experiential Learning Coordinator

Khris Watts, RN  
[khristinia.watts@cincinnati.edu](mailto:khristinia.watts@cincinnati.edu)

## Courses

### MCH 100 Healthcare Informatics 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on technology used in the healthcare delivery system and electronic health records (EHR) management. Topics include: hardware, software, user interfaces, telecommunications and networks, and health management information systems.  
 Prerequisites: IM 105 or 20 wpm keyboarding speed

### MCH 101 Medical Terminology 1 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on the basic structure of medical words and abbreviations. Topics include: prefixes, suffixes, word roots, combining forms, and singulars and plurals.  
 Prerequisites: ENG 085 or appropriate placement  
 Ohio Transfer Assurance Guide Approved

### MCH 102 Medical Terminology 2 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A continuation of MCH 101. Topics include: defining, pronouncing, and spelling medical terms using prefixes, suffixes, roots, and combined forms.  
 Prerequisites: MCH 101 (minimum grade C)  
 Ohio Transfer Assurance Guide Approved

### MCH 104 Comprehensive Medical Terminology 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A comprehensive study of medical terminology. Topics include: prefixes, suffixes, word roots, combining forms, singulars and plurals, and abbreviations associated with medical specialties.  
 Prerequisites: ENG 085 or appropriate placement  
 Ohio Transfer Assurance Guide Approved

### MCH 106 Health and Wellness Promotion 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on promoting health and wellness issues to the public. Topics include: self-empowerment, stress reduction, physical fitness, healthy eating, addiction avoidance, identifying and reducing risk factors in disease, and alternative therapies.  
 Prerequisites: None

### MCH 108 Professionalism in Healthcare 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on professional standards applicable in healthcare settings. Topics include: communication skills, employability skills, healthcare teams, diversity, career planning, and professional development.  
 Prerequisites: ENG 080 or appropriate placement

### MCH 110 Orientation to Health Records 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on the content and format of health records. Topics include: standard forms, legal issues related to health records, maintaining health records, and filing and retrieving diagnostic reports.  
 Prerequisites: MCH 101 (minimum grade C), and IM 105 or appropriate keyboarding score

### MCH 112 Issues in Health Economics 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on current trends and concerns related to the economics of health care systems. Topics include: economic differences between medical care and other commodities.  
 Prerequisites: None

### MCH 114 Law and Ethics for Healthcare 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on fundamentals of medical jurisprudence and essentials of professional behavior in healthcare. Topics include: medical ethics, legal concerns in healthcare, and the healthcare provider's role as an agent of the physician.  
 Prerequisites: ENG 085 or appropriate placement

### MCH 116 Cultural Competency for Health and Public Safety Professions 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on the influences of race, culture, and ethnicity in shaping values, belief systems, and behaviors of Health and Public Safety professionals and patients/clients.  
 Prerequisites: ENG 085 or appropriate placement

### MCH 118 Quality Improvement in Healthcare 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on quality improvement in healthcare, focused on patient-centered care. Topics include: organizations responsible for healthcare accreditation and regulation, healthcare provider departments that address regulations, and trends affecting delivery of quality healthcare services.  
 Prerequisites: ENG 085 or appropriate placement

**MCH 120 Health Unit Coordinator Training**  
**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on skills required for entry-level medical clerical workers. Topics include: patient charts, transcribing nursing treatment, using computer software, medication, respiratory and physical therapy orders, X-ray and MRI scan procedures, nuclear medicine, ultrasound, and endoscopy.  
 Prerequisites: MCH 101 or MCH 104 (minimum grade C for either)

**MCH 130 Nurse Aide Training**  
**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on caring for the elderly in long-term care facilities. Topics include: communication skills, mental health and social service needs, resident rights, activities of daily living, safety, and restorative services. Students who complete the course at 80% or above are qualified to take the Ohio Department of Health Competency Evaluation Test for a State Tested Nurse Aide (STNA).  
 Prerequisites: None  
 Instructor Consent Required

**MCH 132 Patient Care Assistant Training**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for employment in acute care facilities as nursing assistive personnel. Topics include: role definition/classification, communication, basic anatomy/physiology concepts with associated observations, overview of nutrition/diet therapy, introduction to common pathologies, and commonly delegated skills.  
 Prerequisites: ENG 085 or appropriate placement, and MCH 130, and on State Nurse Aide Registry or eligible for Registry  
 Instructor Consent Required

**MCH 134 Medication Aide Training**  
**6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course that prepares students to distribute medications in long-term care and residential care facilities, through a minimum of 80 hours of lecture and laboratory practice and 40 hours of clinical experience.  
 Prerequisites: MCH 130, and on State Nurse Aide Registry or have one year of experience in a residential care setting  
 Instructor Consent Required

**MCH 136 Restorative Aide Training**  
**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on rehabilitation services used to return individuals to optimal mobility and functioning following various conditions. Topics include: lifting, moving, and ambulation procedures; care of individuals with musculoskeletal, neurological, and integumentary conditions; and restorative approaches to meeting nutrition, hydration, and personal care needs.  
 Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry  
 Instructor Consent Required

**MCH 138 Patient Care Skills**  
**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on fundamental health care concepts and skills for students planning a career in healthcare. Topics include: basic body mechanics, patient draping techniques, infection control techniques, oxygen therapy, and problem solving techniques.  
 Prerequisites: None

**MCH 141 Electrocardiography 1**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on basic principles of electrocardiography. Topics include: the electrical conductive system of the heart, patient preparation, setting up the ECG machine, and recognizing and correcting distortion problems.  
 Prerequisites: BIO 100 or BIO 111 or BIO 151 (minimum grade C for all)

**MCH 142 Electrocardiography 2**  
**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of MCH 141, including review of basic electrocardiography and 12 lead ECG interpretation. Topics include: cardiac electrophysiology, recognizing common dysrhythmia and advanced cardiac dysrhythmias, chamber enlargement, pacemakers, myocardial ischemia, injury, infarct patterns, and effects of drugs and electrolytes on the ECG.  
 Prerequisites: MCH 141 (minimum grade C), or certification in EMT, Paramedic, Nursing, or Practical Nursing

## Patient Care Assistant Certificate (PCAC)

### Patient Care Assistant Certificate (PCAC)

The Patient Care Assistant is an unlicensed assistant (with Nurse Aide certification) who supports the professional nurse in providing basic patient care in an acute care setting such as a hospital's general medical unit or surgical unit.

The certificate program includes topics such as the role of the Patient Care Assistant, medical terminology, basic concepts of anatomy and physiology, basic concepts of nutrition and diet therapy, and care skills for hospitalized patients.

Prospective students must be at least 18 years old, and have State-Tested Nurse Aide certification, and a high school diploma or GED.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

### Patient Care Assistant Certificate (PCAC)

**Program Prerequisites:** ENG 085 Applications of College Reading and Writing and MAT 093 Math Literacy, or appropriate placements, and MCH 130 Nurse Aide Training or currently in good standing on the Ohio State Nurse Aide registry.

MCH 132	Patient Care Assistant Training	3
Total Credits		3

### Faculty

#### Advisor

Lisa Lucas, MA  
 lisa.lucas@cincinnati-state.edu



## Courses

### **MCH 100 Healthcare Informatics**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on technology used in the healthcare delivery system and electronic health records (EHR) management. Topics include: hardware, software, user interfaces, telecommunications and networks, and health management information systems.

Prerequisites: IM 105 or 20 wpm keyboarding speed

### **MCH 101 Medical Terminology 1**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the basic structure of medical words and abbreviations. Topics include: prefixes, suffixes, word roots, combining forms, and singulars and plurals.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Assurance Guide Approved

### **MCH 102 Medical Terminology 2**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of MCH 101. Topics include: defining, pronouncing, and spelling medical terms using prefixes, suffixes, roots, and combined forms.

Prerequisites: MCH 101 (minimum grade C)

Ohio Transfer Assurance Guide Approved

### **MCH 104 Comprehensive Medical Terminology**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A comprehensive study of medical terminology. Topics include: prefixes, suffixes, word roots, combining forms, singulars and plurals, and abbreviations associated with medical specialties.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Assurance Guide Approved

### **MCH 106 Health and Wellness Promotion**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on promoting health and wellness issues to the public. Topics include: self-empowerment, stress reduction, physical fitness, healthy eating, addiction avoidance, identifying and reducing risk factors in disease, and alternative therapies.

Prerequisites: None

### **MCH 108 Professionalism in Healthcare**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professional standards applicable in healthcare settings. Topics include: communication skills, employability skills, healthcare teams, diversity, career planning, and professional development.

Prerequisites: ENG 080 or appropriate placement

### **MCH 110 Orientation to Health Records**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the content and format of health records. Topics include: standard forms, legal issues related to health records, maintaining health records, and filing and retrieving diagnostic reports.

Prerequisites: MCH 101 (minimum grade C), and IM 105 or appropriate keyboarding score

### **MCH 112 Issues in Health Economics**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on current trends and concerns related to the economics of health care systems. Topics include: economic differences between medical care and other commodities.

Prerequisites: None

### **MCH 114 Law and Ethics for Healthcare**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of medical jurisprudence and essentials of professional behavior in healthcare. Topics include: medical ethics, legal concerns in healthcare, and the healthcare provider's role as an agent of the physician.

Prerequisites: ENG 085 or appropriate placement

### **MCH 116 Cultural Competency for Health and Public Safety Professions**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the influences of race, culture, and ethnicity in shaping values, belief systems, and behaviors of Health and Public Safety professionals and patients/clients.

Prerequisites: ENG 085 or appropriate placement

### **MCH 118 Quality Improvement in Healthcare**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on quality improvement in healthcare, focused on patient-centered care. Topics include: organizations responsible for healthcare accreditation and regulation, healthcare provider departments that address regulations, and trends affecting delivery of quality healthcare services.

Prerequisites: ENG 085 or appropriate placement

### **MCH 120 Health Unit Coordinator Training**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on skills required for entry-level medical clerical workers. Topics include: patient charts, transcribing nursing treatment, using computer software, medication, respiratory and physical therapy orders, X-ray and MRI scan procedures, nuclear medicine, ultrasound, and endoscopy.

Prerequisites: MCH 101 or MCH 104 (minimum grade C for either)

### **MCH 130 Nurse Aide Training**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on caring for the elderly in long-term care facilities. Topics include: communication skills, mental health and social service needs, resident rights, activities of daily living, safety, and restorative services. Students who complete the course at 80% or above are qualified to take the Ohio Department of Health Competency Evaluation Test for a State Tested Nurse Aide (STNA).

Prerequisites: None

Instructor Consent Required

### **MCH 132 Patient Care Assistant Training**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for employment in acute care facilities as nursing assistive personnel. Topics include: role definition/classification, communication, basic anatomy/physiology concepts with associated observations, overview of nutrition/diet therapy, introduction to common pathologies, and commonly delegated skills.

Prerequisites: ENG 085 or appropriate placement, and MCH 130, and on State Nurse Aide Registry or eligible for Registry

Instructor Consent Required

### **MCH 134 Medication Aide Training**

**6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course that prepares students to distribute medications in long-term care and residential care facilities, through a minimum of 80 hours of lecture and laboratory practice and 40 hours of clinical experience.

Prerequisites: MCH 130, and on State Nurse Aide Registry or have one year of experience in a residential care setting

Instructor Consent Required

**MCH 136 Restorative Aide Training****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on rehabilitation services used to return individuals to optimal mobility and functioning following various conditions. Topics include: lifting, moving, and ambulation procedures; care of individuals with musculoskeletal, neurological, and integumentary conditions; and restorative approaches to meeting nutrition, hydration, and personal care needs.

Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry

Instructor Consent Required

**MCH 138 Patient Care Skills****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on fundamental health care concepts and skills for students planning a career in healthcare. Topics include: basic body mechanics, patient draping techniques, infection control techniques, oxygen therapy, and problem solving techniques.

Prerequisites: None

**MCH 141 Electrocardiography 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on basic principles of electrocardiography. Topics include: the electrical conductive system of the heart, patient preparation, setting up the ECG machine, and recognizing and correcting distortion problems.

Prerequisites: BIO 100 or BIO 111 or BIO 151 (minimum grade C for all)

**MCH 142 Electrocardiography 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of MCH 141, including review of basic electrocardiography and 12 lead ECG interpretation. Topics include: cardiac electrophysiology, recognizing common dysrhythmia and advanced cardiac dysrhythmias, chamber enlargement, pacemakers, myocardial ischemia, injury, infarct patterns, and effects of drugs and electrolytes on the ECG.

Prerequisites: MCH 141 (minimum grade C), or certification in EMT, Paramedic, Nursing, or Practical Nursing

## Restorative Aide Certificate (RESTC)

### Restorative Aide Certificate (RESTC)

**Note: This certificate program is not admitting new students**

The Restorative Aide certificate provides the skills needed to assist patients in a health care facility with tasks of daily living. These skills include lifting, moving, and ambulation procedures; caring for individuals with musculoskeletal, neurological, and integumentary (skin) conditions; providing restorative approaches to meeting needs for nutrition, hydration, personal care, and other daily activities; and completing documentation of care.

This certificate program is appropriate for nursing assistants and licensed nurses who are new to restorative programs in long-term care facilities.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Restorative Aide Certificate (RESTC)

**Program Prerequisites:** AFL 085 and AFM 095 Foundations of Basic Algebra, or appropriate placement test scores, and MCH 130 Nurse Aide Training or currently in good standing on the Ohio State Nurse Aide registry.

MCH 136	Restorative Aide Training	2
Total Credits		2

### Courses

**MCH 100 Healthcare Informatics****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on technology used in the healthcare delivery system and electronic health records (EHR) management. Topics include: hardware, software, user interfaces, telecommunications and networks, and health management information systems.

Prerequisites: IM 105 or 20 wpm keyboarding speed

**MCH 101 Medical Terminology 1****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the basic structure of medical words and abbreviations. Topics include: prefixes, suffixes, word roots, combining forms, and singulars and plurals.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

**MCH 102 Medical Terminology 2****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of MCH 101. Topics include: defining, pronouncing, and spelling medical terms using prefixes, suffixes, roots, and combined forms.

Prerequisites: MCH 101 (minimum grade C)  
Ohio Transfer Assurance Guide Approved

**MCH 104 Comprehensive Medical Terminology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A comprehensive study of medical terminology. Topics include: prefixes, suffixes, word roots, combining forms, singulars and plurals, and abbreviations associated with medical specialties.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

**MCH 106 Health and Wellness Promotion****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on promoting health and wellness issues to the public. Topics include: self-empowerment, stress reduction, physical fitness, healthy eating, addiction avoidance, identifying and reducing risk factors in disease, and alternative therapies.

Prerequisites: None

**MCH 108 Professionalism in Healthcare****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professional standards applicable in healthcare settings. Topics include: communication skills, employability skills, healthcare teams, diversity, career planning, and professional development.

Prerequisites: ENG 080 or appropriate placement

**MCH 110 Orientation to Health Records****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the content and format of health records. Topics include: standard forms, legal issues related to health records, maintaining health records, and filing and retrieving diagnostic reports.

Prerequisites: MCH 101 (minimum grade C), and IM 105 or appropriate keyboarding score

**MCH 112 Issues in Health Economics****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on current trends and concerns related to the economics of health care systems. Topics include: economic differences between medical care and other commodities.

Prerequisites: None

**MCH 114 Law and Ethics for Healthcare****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of medical jurisprudence and essentials of professional behavior in healthcare. Topics include: medical ethics, legal concerns in healthcare, and the healthcare provider's role as an agent of the physician.

Prerequisites: ENG 085 or appropriate placement

**MCH 116 Cultural Competency for Health and Public Safety Professions****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the influences of race, culture, and ethnicity in shaping values, belief systems, and behaviors of Health and Public Safety professionals and patients/clients.

Prerequisites: ENG 085 or appropriate placement

**MCH 118 Quality Improvement in Healthcare****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on quality improvement in healthcare, focused on patient-centered care. Topics include: organizations responsible for healthcare accreditation and regulation, healthcare provider departments that address regulations, and trends affecting delivery of quality healthcare services.

Prerequisites: ENG 085 or appropriate placement

**MCH 120 Health Unit Coordinator Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on skills required for entry-level medical clerical workers. Topics include: patient charts, transcribing nursing treatment, using computer software, medication, respiratory and physical therapy orders, X-ray and MRI scan procedures, nuclear medicine, ultrasound, and endoscopy.

Prerequisites: MCH 101 or MCH 104 (minimum grade C for either)

**MCH 130 Nurse Aide Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on caring for the elderly in long-term care facilities. Topics include: communication skills, mental health and social service needs, resident rights, activities of daily living, safety, and restorative services. Students who complete the course at 80% or above are qualified to take the Ohio Department of Health Competency Evaluation Test for a State Tested Nurse Aide (STNA).

Prerequisites: None

Instructor Consent Required

**MCH 132 Patient Care Assistant Training****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for employment in acute care facilities as nursing assistive personnel. Topics include: role definition/classification, communication, basic anatomy/physiology concepts with associated observations, overview of nutrition/diet therapy, introduction to common pathologies, and commonly delegated skills.

Prerequisites: ENG 085 or appropriate placement, and MCH 130, and on State Nurse Aide Registry or eligible for Registry  
Instructor Consent Required

**MCH 134 Medication Aide Training****6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course that prepares students to distribute medications in long-term care and residential care facilities, through a minimum of 80 hours of lecture and laboratory practice and 40 hours of clinical experience.

Prerequisites: MCH 130, and on State Nurse Aide Registry or have one year of experience in a residential care setting  
Instructor Consent Required

**MCH 136 Restorative Aide Training****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on rehabilitation services used to return individuals to optimal mobility and functioning following various conditions. Topics include: lifting, moving, and ambulation procedures; care of individuals with musculoskeletal, neurological, and integumentary conditions; and restorative approaches to meeting nutrition, hydration, and personal care needs.

Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry  
Instructor Consent Required

**MCH 138 Patient Care Skills****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on fundamental health care concepts and skills for students planning a career in healthcare. Topics include: basic body mechanics, patient draping techniques, infection control techniques, oxygen therapy, and problem solving techniques.

Prerequisites: None

**MCH 141 Electrocardiography 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on basic principles of electrocardiography. Topics include: the electrical conductive system of the heart, patient preparation, setting up the ECG machine, and recognizing and correcting distortion problems.

Prerequisites: BIO 100 or BIO 111 or BIO 151 (minimum grade C for all)

**MCH 142 Electrocardiography 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of MCH 141, including review of basic electrocardiography and 12 lead ECG interpretation. Topics include: cardiac electrophysiology, recognizing common dysrhythmia and advanced cardiac dysrhythmias, chamber enlargement, pacemakers, myocardial ischemia, injury, infarct patterns, and effects of drugs and electrolytes on the ECG.

Prerequisites: MCH 141 (minimum grade C), or certification in EMT, Paramedic, Nursing, or Practical Nursing

# Medical Laboratory Technology (MLT)

## Medical Laboratory Technology (MLT)

A medical laboratory technician (MLT) uses laboratory skills, computers, technology, and knowledge of pathology to provide information needed by the physician to diagnose, treat, and prevent disease.

In clinical chemistry, for example, the MLT determines enzyme levels to diagnose a heart attack, glucose levels to monitor diabetes, and cholesterol levels to prevent heart disease. In hematology, the MLT studies blood cells to diagnose anemia and leukemia. In immunohematology, the MLT prepares blood for transfusions. In the microbiology department, the organism causing an infection is identified and antimicrobials for treatment are determined.

The granting of the Medical Laboratory Technology degree is not contingent on passing an external certification or licensure exam.

The Medical Laboratory Technology program is accredited by The National Accrediting Agency for Clinical Laboratory Sciences, 5600 North River Road, Suite 720, Rosemont, IL 60018-5119. Phone: 773-714-8880.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Medical Laboratory Technology (MLT)

Semester 1		Lec	Lat	Credits
CHE 115	General, Organic, and Biological Chemistry ( <b>B</b> )	3	3	4
MAT 151	College Algebra ( <b>G</b> )	3	2	4
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
Semester 2				
MLT 100	Introduction to Medical Laboratory Analysis ( <b>B</b> )	3	6	5
BIO 151	Anatomy and Physiology 1 ( <b>B</b> )	3	2	4
MLT 121	Hematology and Hemostasis 1 ( <b>T</b> )	3	3	4
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
Semester 3				
MLT 140	Clinical Chemistry ( <b>T</b> )	3	3	4
MLT 170	Instrumentation for Medical Laboratory Technicians ( <b>T</b> )	0	3	1
BIO 152	Anatomy and Physiology 2 ( <b>B</b> )	3	2	4
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
MLT 122	Hematology and Hemostasis 2 ( <b>T</b> )	2	3	3
Semester 4				

MLT 187	Clinical Chemistry and Urinalysis Applic ( <b>T</b> )	0	3	1
MLT 294	MLT Internship: Specimen Collection ( <b>T</b> )	0	4	1
MLT 181	Phlebotomy Techniques for MLT ( <b>T</b> )	0	3	1
MLT 186	Hematology and Hemostasis Applications ( <b>T</b> )	0	3	1
MLT 295	MLT Clinical Internship ( <b>T</b> )	0	20	1
Semester 5				
MLT 210	Clinical Immunology and Serology ( <b>T</b> )	2	3	3
MLT 191	Part-Time Cooperative Education 1: Medical Laboratory Technology ( <b>T</b> )	1	20	1
PSY 110	Introduction to Psychology ( <b>G</b> )	3	0	3
MLT 255	Clinical Microbiology with Applications ( <b>T</b> )	3	9	6
Semester 6				
MLT 270	Medical Laboratory Seminar ( <b>T</b> )	0	3	1
MLT 192	Part-Time Cooperative Education 2: Medical Laboratory Technology ( <b>T</b> )	1	20	1
MLT 265	Immunohematology with Applications ( <b>T</b> )	2	9	5
Total Credits:		42	124	65

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Medical Laboratory Technology (MLT)

- Collect and process biological specimens using correct technique and safety precautions.
- Recognize pre-analytical, analytical, and post-analytical factors that affect results and take appropriate action within predetermined limits.
- Analyze biological specimens following established procedures with reproducibility consistent with entry level expectations.
- Monitor quality control and take appropriate action within predetermined limits.
- Perform preventative and corrective maintenance of instruments under supervision or refer to appropriate source for repairs.
- Communicate with patients, co-workers, and supervisors and other members of the health care team in a respectful and professional manner.
- Relate laboratory results to common disease processes.
- Apply basic scientific principles to new procedures and techniques.
- Value participation in continuing education to maintain professional competence.
- Recognize and report critical values to physician or nursing staff according to hospital policy.
- Prepare to earn a passing score on the ASCP certification exam.
- Prepare to work in an entry level position with above-average performance.

## Faculty

### Program Chair/Advisor

Kellee M. Fields, Ed.D., MLS (ASCP)  
kellee.fields@cincinnatiastate.edu

## Courses

### MLT 100 Introduction to Medical Laboratory Analysis 5 Credits. 3 Lecture Hours. 6 Lab Hours.

A course on equipment and processes of the clinical laboratory and the responsibilities of the Medical Laboratory Technician. Topics include pipetting; spectrophotometry; safety; point of care testing; and the chemical, physical, and microscopic analysis of urine.

Prerequisites: CHE 115 and MAT 151 and MLT Program Chair consent

Instructor Consent Required

### MLT 121 Hematology and Hemostasis 1 4 Credits. 3 Lecture Hours. 3 Lab Hours.

A course on theory and practice of normal hematology and hemostasis. Topics include: hematopoiesis, cell and platelet counts, cell identification, and prothrombin and partial prothrombin times.

Prerequisites: CHE 115 and MAT 151 and MLT Program Chair consent

Instructor Consent Required

### MLT 122 Hematology and Hemostasis 2 3 Credits. 2 Lecture Hours. 3 Lab Hours.

A continuation of MLT 121. Topics include: hematopoiesis and abnormal cell identification, red cell abnormalities, anemias, leukemias, and coagulopathies.

Prerequisites: MLT 121

### MLT 140 Clinical Chemistry 4 Credits. 3 Lecture Hours. 3 Lab Hours.

A course on principles and procedures used in the chemical analysis of clinical specimens. Topics include: manual and automated chemical testing, quality control, and clinical correlations.

Prerequisites: MLT 100 and MLT 121

### MLT 170 Instrumentation for Medical Laboratory Technicians 1 Credit. 0 Lecture Hour. 3 Lab Hours.

A course on principles and procedures for instrumentation used in hematology, hemostasis, urinalysis and clinical chemistry. Topics include: set-up, operation, routine maintenance and quality control procedures for spectrophotometers, particle counters, electrodes, and other automated analyzers.

Prerequisites: MLT 100 and MLT 121

### MLT 180 Phlebotomy Techniques and Practice for Medical Laboratory Technicians 2 Credits. 0 Lecture Hour. 6 Lab Hours.

A course on theory and practice of blood collection used by medical laboratory technicians. Topics include: devices and methods, specimen integrity, communication, and professionalism. Students who develop the necessary skills also practice supervised blood collection at a clinical site.

Prerequisites: MLT 100 and MLT 121

### MLT 181 Phlebotomy Techniques for MLT 1 Credit. 0 Lecture Hour. 3 Lab Hours.

A two-week course on the equipment and techniques used to collect quality specimens for analysis. Topics include: communication with patients and staff, professional conduct, and daily practice of techniques using a model arm.

Prerequisites: MLT 122 and MLT 140

### MLT 185 Clinical Laboratory Practice 6 Credits. 0 Lecture Hour. 30 Lab Hours.

Students apply skills in clinical chemistry, hematology, hemostasis, and urinalysis through on-campus laboratory practice. Students who develop the necessary skills also participate in an internship in these departments at a clinical site.

Prerequisites: MLT 140 and MLT 180

### MLT 186 Hematology and Hemostasis Applications 1 Credit. 0 Lecture Hour. 3 Lab Hours.

Students apply skills in hematology and hemostasis in an on-campus laboratory, performing tasks independently as part of a simulated lab setting. Students must adhere to HPS and MLT Clinical Practice Standards.

Prerequisites: MLT 122 and MLT 170

### MLT 187 Clinical Chemistry and Urinalysis Applic 1 Credit. 0 Lecture Hour. 3 Lab Hours.

Students apply skills in clinical chemistry and urinalysis in an on-campus laboratory, performing tasks independently in a simulated lab setting. Students must adhere to HPS and MLT Clinical Practice Standards.

Prerequisites: MLT 122 and MLT 170

**MLT 191 Part-Time Cooperative Education 1: Medical Laboratory Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: MLT 185 (minimum grade C)

**MLT 192 Part-Time Cooperative Education 2: Medical Laboratory Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: MLT 191 (minimum grade C)

**MLT 210 Clinical Immunology and Serology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the function of the immune system, and immunological and serological testing methods performed in clinical laboratories. Topics include: humoral and cell mediated immunity, hypersensitivity, infectious agents, enzyme immunoassay, immunoelectrophoresis, and basic molecular testing. Prerequisites: MLT 295  
Corequisites: MLT 261 : Clinical Microbiology

**MLT 250 Immunohematology****5 Credits. 3 Lecture Hours. 6 Lab Hours.**

A course on theory and application of immunohematology procedures used in the clinical laboratory. Topics include: ABO and Rh, antibody screens and antibody identification, compatibility, enhancement techniques, and automated procedures. Prerequisites: MLT 185

**MLT 251 Immunohematology****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on the theory of immunohematology, emphasizing laboratory techniques. Topics include: ABO and Rh, antibody screens and identification, compatibility, enhancement techniques, and donor requirements. Prerequisites: MLT 210

**MLT 252 Immunohematology Applications****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A four-week course with students completing immunohematology procedures in an on-campus simulated laboratory setting. Students must adhere to HPS and MLT Clinical Practice Standards. Prerequisites: MLT 251

**MLT 255 Clinical Microbiology with Applications****6 Credits. 3 Lecture Hours. 9 Lab Hours.**

A course on the theory and practice of clinical microbiology. Topics include: clinical significance and identification and antimicrobial susceptibility of pathogenic bacteria with introduction to other microorganisms. The course includes a two-week applications component performing clinical bacteriology procedures in an on-campus simulated laboratory setting. Students must successfully complete the theory course component in order to continue with the applications component. Prerequisites: MLT 295  
Corequisites: MLT 210: Clinical Immunology and Serology

**MLT 260 Clinical Microbiology****6 Credits. 3 Lecture Hours. 9 Lab Hours.**

A course on theory and application of procedures for clinical microbiology. Topics include: identification, antimicrobial susceptibility and clinical significance of bacteria; basic mycobacteriology; mycology; parasitology; and virology. Prerequisites: MLT 250

**MLT 261 Clinical Microbiology****5 Credits. 2 Lecture Hours. 9 Lab Hours.**

A course on the theory and practice of clinical microbiology. Topics include: clinical significance, identification and antimicrobial susceptibility of pathogenic bacteria with introduction to other microorganisms. Prerequisites: MLT 295  
Corequisites: MLT 210: Clinical Immunology and Serology

**MLT 262 Clinical Microbiology Applications****1 Credit. 0 Lecture Hour. 1 Lab Hour.**

A two-week course with students completing clinical bacteriology procedures in an on-campus simulated laboratory setting. Students must adhere to HPS and MLT Clinical Practice Standards. Prerequisites: MLT 261

**MLT 265 Immunohematology with Applications****5 Credits. 2 Lecture Hours. 9 Lab Hours.**

A course on the theory and practice of immunohematology, focusing on ABO/Rh typing procedures, antibody detection and identification techniques, and compatibility testing. Other topics include: hemolytic disease of the newborn, blood donor program regulations component therapy, transfusion reaction investigation, quality control, and problem solving. The course includes a two-week applications component performing immunohematology procedures in an on-campus simulated laboratory setting. Students must successfully complete the theory course component in order to continue with the applications component. Prerequisites: MLT 210  
Corequisites: MLT 270: Medical Laboratory Seminar

**MLT 270 Medical Laboratory Seminar****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Students review theories and procedures of medical laboratory technology to prepare for the certification exam. Topics include: laboratory operations, hematology, hemostasis, clinical chemistry, immunology, immunohematology, clinical microbiology, and test-taking strategies. Prerequisites: MLT 210 and MLT 250 (minimum grade C for both)

**MLT 294 MLT Internship: Specimen Collection****1 Credit. 0 Lecture Hour. 4 Lab Hours.**

Students participate in specimen collection at an area laboratory or collection site, with emphasis on phlebotomy. Activities may include specimen processing. Students must adhere to HPS and MLT Clinical Practice Standards. Prerequisites: MLT 181

**MLT 295 MLT Clinical Internship****1 Credit. 0 Lecture Hour. 20 Lab Hours.**

Students are assigned to a medical laboratory for full-time experience in hematology, hemostasis, clinical chemistry and urinalysis. Students must adhere to HPS and MLT Clinical Practice Standards. Prerequisites: MLT 186 and MLT 187

## Nursing Programs

Cincinnati State offers two paths to an associate's degree in Nursing, and a certificate program in Practical Nursing.

**The Cincinnati State Bethesda School of Nursing program (NUR)** prepares associate's degree graduate nurses who are eligible to take the national standardized nursing examination (NCLEX-RN) and upon passing, work as registered nurses. Graduates are members of the health team prepared to provide nursing care to clients with common health problems in a variety of settings.

**The Nursing LPN-to-RN Progression program (NURP)** allows qualified students to shorten the time required to complete the Nursing associate's degree. Students in the Cincinnati State Bethesda School of Nursing who are Licensed Practical Nurses with an unencumbered license may complete the associate's degree Nursing program using this option. Interested students should meet with the Nursing Program Chair or a Nursing academic advisor.

**The Cincinnati State Practical Nursing Certificate program (PNC)** prepares students to take the national standardized NCLEX-PN exam for licensure as a Practical Nurse. Licensed practical nurses share in the responsibility for patient care in various areas of nursing.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

## The Cincinnati State Bethesda School of Nursing (NUR)

### The Cincinnati State Bethesda School of Nursing (NUR)

The Cincinnati State Bethesda School of Nursing prepares graduate nurses who are eligible to take the national standardized nursing examination (NCLEX-RN) and upon passing, work as registered nurses.

The program is approved by the Ohio Board of Nursing and is accredited by the Accreditation Commission for Education in Nursing, 3343 Peachtree Road NE, Suite 850, Atlanta, Georgia 30326. Phone: (404) 975-5000.

Graduates are members of the health team prepared to provide nursing care to clients with common health problems in a variety of settings.

Program application and selective enrollment requirements include:

- Applicants must be graduates of an accredited high school or provide evidence of high school equivalency by GED scores that meet standard core requirements set by the Ohio Department of Education.
- Applicants must have earned grades of C or higher in high school or college biology, chemistry, and algebra courses, and these courses must have been completed within seven years of the application for the Nursing program.
- Applicants must also be Ohio state-tested nurse aides or LPN's.
- Applicants must complete the steps of the Nursing selective enrollment process to qualify to enter Nursing clinical courses. (Admission to the College does not guarantee entry into the

Nursing program.) A cumulative grade point average of 2.75 is required for entry into the clinical courses.

Additional information about program selective enrollment requirements is available from the Program Director or Program Coordinator.

Applicants are strongly encouraged to attend a Nursing program information session and meet with a program advisor prior to applying for selective enrollment.

Other requirements include:

- Students must complete general education courses in the order listed in the curriculum, unless these courses were completed prior to the listed semester.
- Students must meet all requirements of the program, including earning a minimum grade of C or Pass in all curriculum courses, attaining satisfactory clinical evaluations, and maintaining the required grade point average.
- During the final semester of the curriculum, students must pass a nationally standardized comprehensive exam in order to pass the final theory course.
- Students must have current certification in CPR for health care providers prior to taking clinical nursing courses.
- Students must provide a recent physical exam with up-to-date immunizations, including Hepatitis B, prior to commencing course work. Students must obtain a two-step TB skin test to enter the program and must obtain an annual TB test to remain in the program.

Prospective students are advised that when applying for the state licensure examination, they must answer a series of questions related to criminal convictions, reasons for dismissal from work positions, and mental health status. A positive response to any of these questions can result in disqualification as a candidate for licensure (Ohio Revised Code 4723.28). The licensure application may be viewed on the Ohio Board of Nursing website at <http://www.nursing.ohio.gov>.

Students who wish to enter the program who have been convicted of felonies and/or misdemeanors must contact the Program Director to discuss their situation before applying for selective enrollment.

During the selective enrollment process, background checks will be completed, per Health and Public Safety Division policy. A positive background check may prevent a student from entering the program.

Students who are convicted of possession and/or distribution of controlled substances, or have positive drug screens for non-prescription controlled substances while enrolled in the program are automatically dismissed.

Students who wish to transfer nursing credit from another nursing program to Cincinnati State must contact the Program Coordinator for specific information, after being admitted to the College and the Nursing program. Students may transfer a maximum of 17 semester credits (or 26 quarter credits) of clinical courses. Restrictions may be placed on nursing credit transfer for students who failed a nursing course or courses in another program.

Because nursing is a dynamic profession, the program reserves the right to change the curriculum and admission requirements as necessary

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Nursing (NUR)

Students seeking admission to the Nursing program must complete specific selective enrollment requirements. Students should meet with their academic advisor to discuss eligibility and deadlines for selective enrollment.

Semester 1		Lec	Lat	Credits
BIO 151	Anatomy and Physiology 1 ( <b>B</b> )	3	2	4
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
MAT 105	Quantitative Reasoning ( <b>G</b> )	2	2	3
NUR 101	Nursing Concepts 1 ( <b>B</b> )	3	0	3
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
Semester 2				
BIO 152	Anatomy and Physiology 2 ( <b>B</b> )	3	2	4
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
NUR 102	Nursing Concepts 2 ( <b>T</b> )	3	9	6
Semester 3				
NUR 103	Nursing Concepts 3 ( <b>T</b> )	6	9	9
BIO 220	Microbiology ( <b>G</b> )	2	3	3
Semester 4				
NUR 201	Nursing Concepts 4 ( <b>T</b> )	7	12	11
PSY 110	Introduction to Psychology ( <b>G</b> )	3	0	3
Semester 5				
SOC 105	Introduction to Sociology ( <b>B</b> )	3	0	3
NUR 202	Nursing Concepts 5 ( <b>T</b> )	6	9	9
Total Credits:		48	48	65

## Electives

### FYE Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## The Cincinnati State Bethesda School of Nursing (NUR)

- Synthesize knowledge related to the physiologic, psychosocial, and spiritual well-being of patients.
- Create a healing environment for the physical, psychosocial, and spiritual well-being of all patients.
- Utilize critical thinking and clinical reasoning skills to facilitate sound decision-making.
- Analyze nursing decisions for congruency with evidence-based practices.
- Integrate leadership principles that facilitate interdisciplinary collaboration and teamwork.
- Critique own attitudes and behaviors of the graduate nurse that are consistent with the professional values of the discipline and conducive to improving the quality and safety of their health care system.
- Respect the rights of patients to make health care choices that are consistent with their values and cultural beliefs.
- Develop therapeutic relationships with patients and families that demonstrate caring and respect for their values, preferences, and health care needs.
- Design a plan of care based on best practices and clinical policies with consideration given to the patient and family preferences.
- Utilize health information technology to communicate, manage knowledge, prevent error, and support decision-making.

## Faculty

### Program Chair/Assistant Director

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## NUR Courses

### NUR 100 Orientation to Nursing

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on building knowledge and skills essential to success for students entering the Nursing associate degree program. Topics include: the nursing process, professionalism, critical thinking, time management, study skills, and communication.

Prerequisites: None

Instructor Consent Required

### NUR 101 Nursing Concepts 1

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of the RN in the healthcare system, including cognitive, affective, and psychomotor skills. Topics include: academic success skills, communication, math, health and wellness, cultural awareness, regulatory guidelines, safety, patient education, and basic nursing skills.

Prerequisites: Admitted to the NUR program, high school biology and chemistry within the past 7 years, and STNA (minimum grade C for all courses)

Instructor Consent Required

### NUR 102 Nursing Concepts 2

**6 Credits. 3 Lecture Hours. 9 Lab Hours.**

A continuation of NUR 101. Topics include: holistic care of patients with common health problems, nursing processes, communication, evidence-based practice, cultural sensitivity, and effective decision making skills. Students apply specific nursing and assessment skills in the clinical setting.

Prerequisites: NUR 101, BIO 151, MCH 100 and (ENG 101 or ENG REQC) (minimum grade C for all)

Instructor Consent Required

### NUR 103 Nursing Concepts 3

**9 Credits. 6 Lecture Hours. 9 Lab Hours.**

A continuation of NUR 102. Topics include: nursing care of children and adults across the life span. Students apply clinical reasoning and nursing skills in simulations and in the clinical setting.

Prerequisites: NUR 102 and BIO 152 and 6 credits of English Composition (minimum grade C for all)

Instructor Consent Required

### NUR 104 Academic Success Strategies for Nursing

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategies for academic success in the Nursing associate degree program. Topics include: using college resources; building skills in critical thinking, studying, mathematics, and test-taking; and improving time management skills.

Prerequisites: Instructor consent

Instructor Consent Required

### NUR 105 Nursing LPN to ADN Transition

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course for the LPN who is transitioning into the Associate's degree Nursing program. Topics include: concepts and skills distinctive to the LPN and RN, nursing roles and academic programs, and skills applications in laboratory and clinical settings.

Prerequisites: Unencumbered LPN license in Ohio, and BIO 151 and ENG 101 (minimum grade C for both)

Corequisites: NUR 106 : Nursing LPN/ADN Bridge

Instructor Consent Required

### NUR 106 Nursing LPN/ADN Bridge

**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course for the Licensed Practical Nurse entering the Associate's degree Nursing program. Topics include: nursing care of children, and nursing skills and competencies. Students apply clinical reasoning and nursing skills in simulations and in the clinical setting.

Prerequisites: Unencumbered LPN license in Ohio, and BIO 151 and ENG 101 (minimum grade C for both)

Corequisites: NUR 105: Nursing LPN to ADN Transition

Instructor Consent Required

### NUR 150 Nursing Advanced Standing - LPN to ADN

**11 Credits. 11 Lecture Hours. 0 Lab Hour.**

Students may receive up to 11 semester credit hours for prior training as an LPN that applies to credits required in the Associate's degree Nursing program. Nursing Program Chair approval is required.

Prerequisites: Program Chair consent

Instructor Consent Required

### NUR 201 Nursing Concepts 4

**11 Credits. 7 Lecture Hours. 12 Lab Hours.**

A continuation of NUR 103. Topics include: nursing care of individuals and families in multiple clinical settings, including mental health/psychiatric nursing, obstetrical nursing, and medical-surgical nursing. Students apply specific skills in the clinical setting.

Prerequisites: NUR 103 or NUR 105, and BIO 152 (minimum grade C for all)

Instructor Consent Required

### NUR 202 Nursing Concepts 5

**9 Credits. 6 Lecture Hours. 9 Lab Hours.**

A continuation of NUR 201. Topics include: managing care of patients experiencing complex, acute, and emergency variations in health status; preparing for the NCLEX-RN exam; and preparing for transition to the role of professional nurse. Students apply specific skills in the clinical setting.

Prerequisites: NUR 201, and COMM 105 or COMM 110 (minimum grade C for all)

Instructor Consent Required

## PN Courses

### PN 101 Practical Nursing Concepts 1

**8 Credits. 5 Lecture Hours. 9 Lab Hours.**

An introduction to the practical nursing role with applications of basic nursing skills in lab, simulation, and clinical settings. Topics include: pharmacology, safety, nursing process, nursing history and law, and alterations in health.

Prerequisites: Admitted to the Practical Nursing Certificate program, high school biology and chemistry within the past 7 years, and STNA (minimum grade C for all courses)

Instructor Consent Required

### PN 102 Practical Nursing Concepts 2

**10 Credits. 7 Lecture Hours. 9 Lab Hours.**

A continuation of PN 101, with applications of clinical reasoning and nursing skills in classroom, lab, simulation, and clinical settings. Topics include: mental health, and care of the patient with alterations in health across the lifespan.

Prerequisites: PN 101

Instructor Consent Required

**PN 103 Practical Nursing Concepts 3  
6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A continuation of PN 102 focusing on preparation for transition to the role of the practical nurse, with applications of nursing skills. Topics include: care of the patient with complex alterations in health, women's health/OB, and the professional role.

Prerequisites: PN 102  
Instructor Consent Required

**PN 125 Academic Success Strategies for Practical Nursing  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategies for academic success in the Practical Nursing Certificate program. Topics include: building skills in critical thinking, studying, mathematics, and test-taking; improving time management skills; and developing effective communication and conflict resolution skills.

Prerequisites: Instructor consent  
Instructor Consent Required

**PN 185 Practical Nursing Role Transition  
2 Credits. 2 Lecture Hours. 8 Lab Hours.**

Students apply practical nursing knowledge and skills while working with diverse groups of patients. Topics include: professionalism, and transition from student to practical nurse role. To pass the course, students must achieve a predetermined score on a national standardized exam.

Prerequisites: PN 122 (minimum grade C), and PN 182  
Instructor Consent Required

## Nursing (LPN to RN Progression) (NURP)

### Nursing (LPN to RN) (NURP)

Students in the Cincinnati State Bethesda School of Nursing who are Licensed Practical Nurses with an unencumbered license may complete the Associate's degree Nursing program using this option. Interested students should meet with the Nursing Program Chair or a Nursing academic advisor.

The Nursing program is approved by the Ohio Board of Nursing and is accredited by the Accreditation Commission for Education in Nursing, 3343 Peachtree Road NE, Suite 850, Atlanta, Georgia 30326. Phone: (404) 975-5000.

The Nursing LPN-to-RN Progression program allows qualified students to shorten the time required to complete the Nursing associate's degree. Students enter the Nursing course sequence at the third level, taking Bridge and Transition courses (NUR 105 and NUR 106) instead of the course NUR 103. These courses verify basic nursing skills and also cover pediatric nursing skills, as well as related clinical experiences.

After successfully completing the first semester of Nursing coursework, the LPN-to-RN student applies for Advanced Standing credit in Nursing, which replaces required courses NUR 101, NUR 102, and NUR 103. Students must pay a fee equivalent to one credit hour to apply for Advanced Standing credit.

After receiving Advanced Standing credit, the LPN-to-RN students join traditional Nursing students to complete required courses NUR 201 and NUR 202. These courses cover medical-surgical, obstetrical, mental health, and management content and clinical experiences. The

LPN-to-RN students also complete the non-nursing requirements of the traditional Nursing program.

During the final semester of the curriculum, students must pass a nationally standardized comprehensive exam in order to pass the final theory course.

Because Nursing courses include labs and clinical experiences, courses meet three to four days or evenings per week. Therefore, it would be difficult for an LPN-to-RN student to maintain full-time employment concurrently with a full-time academic load.

An LPN may choose to pursue the traditional Nursing program (completing required Nursing courses over five semesters). This approach is recommended for individuals with little clinical experience, or individuals who need to complete non-nursing courses concurrently with required Nursing courses.

A limited number of students are admitted to the LPN-to-RN program each year, through a selective enrollment process. Two groups of students are admitted during each academic year.

Prospective students are encouraged to attend a Nursing LPN-to-RN Progression information session. Application materials and other information about the selective enrollment process are available from Nursing program advisors.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Nursing (LPN to RN Progression) (NURP)

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
NUR 150	Nursing Advanced Standing - LPN to ADN ( <b>T</b> )	11	0	11
BIO 151	Anatomy and Physiology 1 ( <b>B</b> )	3	2	4
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
MAT 105	Quantitative Reasoning ( <b>G</b> )	2	2	3
<b>Semester 2</b>				
NUR 105	Nursing LPN to ADN Transition ( <b>B</b> )	2	3	3
NUR 106	Nursing LPN/ADN Bridge ( <b>T</b> )	2	6	4
BIO 152	Anatomy and Physiology 2 ( <b>B</b> )	3	2	4
BIO 220	Microbiology ( <b>G</b> )	2	3	3
ENG 10X	English Composition Elective ( <b>G</b> )	3	0	3
<b>Semester 3</b>				
NUR 201	Nursing Concepts 4 ( <b>T</b> )	7	12	11
PSY 110	Introduction to Psychology ( <b>G</b> )	3	0	3
<b>Semester 4</b>				

SOC 105	Introduction to Sociology ( <b>G</b> )	3	0	3
NUR 202	Nursing Concepts 5 ( <b>T</b> )	6	9	9
Total Credits:		51	39	65

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Faculty

### Program Chair

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### Advisor

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### Program Coordinator

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## Courses

### NUR 100 Orientation to Nursing

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on building knowledge and skills essential to success for students entering the Nursing associate degree program. Topics include: the nursing process, professionalism, critical thinking, time management, study skills, and communication.

Prerequisites: None

Instructor Consent Required

### NUR 101 Nursing Concepts 1

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of the RN in the healthcare system, including cognitive, affective, and psychomotor skills. Topics include: academic success skills, communication, math, health and wellness, cultural awareness, regulatory guidelines, safety, patient education, and basic nursing skills.

Prerequisites: Admitted to the NUR program, high school biology and chemistry within the past 7 years, and STNA (minimum grade C for all courses)

Instructor Consent Required

### NUR 102 Nursing Concepts 2

**6 Credits. 3 Lecture Hours. 9 Lab Hours.**

A continuation of NUR 101. Topics include: holistic care of patients with common health problems, nursing processes, communication, evidence-based practice, cultural sensitivity, and effective decision making skills. Students apply specific nursing and assessment skills in the clinical setting.

Prerequisites: NUR 101, BIO 151, MCH 100 and (ENG 101 or ENG REQC) (minimum grade C for all)

Instructor Consent Required

### NUR 103 Nursing Concepts 3

**9 Credits. 6 Lecture Hours. 9 Lab Hours.**

A continuation of NUR 102. Topics include: nursing care of children and adults across the life span. Students apply clinical reasoning and nursing skills in simulations and in the clinical setting.

Prerequisites: NUR 102 and BIO 152 and 6 credits of English Composition (minimum grade C for all)

Instructor Consent Required

### NUR 104 Academic Success Strategies for Nursing

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategies for academic success in the Nursing associate degree program. Topics include: using college resources; building skills in critical thinking, studying, mathematics, and test-taking; and improving time management skills.

Prerequisites: Instructor consent

Instructor Consent Required

### NUR 105 Nursing LPN to ADN Transition

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course for the LPN who is transitioning into the Associate's degree Nursing program. Topics include: concepts and skills distinctive to the LPN and RN, nursing roles and academic programs, and skills applications in laboratory and clinical settings.

Prerequisites: Unencumbered LPN license in Ohio, and BIO 151 and ENG 101 (minimum grade C for both)

Corequisites: NUR 106 : Nursing LPN/ADN Bridge

Instructor Consent Required

### NUR 106 Nursing LPN/ADN Bridge

**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course for the Licensed Practical Nurse entering the Associate's degree Nursing program. Topics include: nursing care of children, and nursing skills and competencies. Students apply clinical reasoning and nursing skills in simulations and in the clinical setting.

Prerequisites: Unencumbered LPN license in Ohio, and BIO 151 and ENG 101 (minimum grade C for both)

Corequisites: NUR 105: Nursing LPN to ADN Transition

Instructor Consent Required

**NUR 150 Nursing Advanced Standing - LPN to ADN****11 Credits. 11 Lecture Hours. 0 Lab Hour.**

Students may receive up to 11 semester credit hours for prior training as an LPN that applies to credits required in the Associate's degree Nursing program. Nursing Program Chair approval is required.

Prerequisites: Program Chair consent  
Instructor Consent Required

**NUR 201 Nursing Concepts 4****11 Credits. 7 Lecture Hours. 12 Lab Hours.**

A continuation of NUR 103. Topics include: nursing care of individuals and families in multiple clinical settings, including mental health/psychiatric nursing, obstetrical nursing, and medical-surgical nursing. Students apply specific skills in the clinical setting.

Prerequisites: NUR 103 or NUR 105, and BIO 152 (minimum grade C for all)

Instructor Consent Required

**NUR 202 Nursing Concepts 5****9 Credits. 6 Lecture Hours. 9 Lab Hours.**

A continuation of NUR 201. Topics include: managing care of patients experiencing complex, acute, and emergency variations in health status; preparing for the NCLEX-RN exam; and preparing for transition to the role of professional nurse. Students apply specific skills in the clinical setting.

Prerequisites: NUR 201, and COMM 105 or COMM 110 (minimum grade C for all)

Instructor Consent Required

## Practical Nursing Certificate (PNC)

### Practical Nursing Certificate (PNC)

The Cincinnati State Practical Nursing Certificate program offers classes at the Clifton Campus and the Great Oaks' Scarlet Oaks Campus. The program is structured to be completed in three continuous semesters of day or evening classes.

The Practical Nursing Certificate program is approved by The Ohio Board of Nursing, 17 South High Street, Suite 400 Columbus, Ohio 43215-3413. Phone: (614) 466-3947.

Licensed practical nurses share in the responsibility for patient care within the established guidelines of the Ohio Nurse Practice Act. The Practical Nursing Certificate prepares students through concurrent classroom education and clinical practice in the areas of basic nursing skills, maternal and infant care, adult and child health, gerontological nursing, mental health concepts, and community health.

Program graduates are eligible to take the national standardized NCLEX-PN exam for licensure as a Practical Nurse. Passing a nationally standardized comprehensive exam is part of the requirements for the final course in the certificate program.

Admission to the Practical Nursing Certificate program requires completion of Selective Admission requirements. Interested students should speak to an advisor and attend an information session.

Enrollment requirements include:

- Submit written proof of current registration as a State Tested Nurse Aide prior to applying for Selective Admission. Students may

complete the Nurse Aide Certificate course (MCH 130) to prepare for the state test.

- Complete a criminal background check, CPR certification, and a statement of health form.
- Have a total grade point average (GPA) of 2.50 or higher, and a GPA of 2.00 or higher in math and science courses.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Practical Nursing Certificate (PNC)

**Program Prerequisites:** Students seeking admission to the Practical Nursing Certificate program must complete selective enrollment requirements. Students should meet with their academic advisor to discuss eligibility and deadlines for selective enrollment.

Semester 1		Lec	Lat	Credits
PN 101	Practical Nursing Concepts 1	5	9	8
FYE 1XX	First Year Experience Elective	1	0	1
BIO 1XX	Biology Elective	3	2	4
Semester 2				
PN 102	Practical Nursing Concepts 2	7	9	10
PSY 110	Introduction to Psychology	3	0	3
Semester 3				
PN 103	Practical Nursing Concepts 3	4	6	6
MCH 100	Healthcare Informatics	2	0	2
PN 185	Practical Nursing Role Transition	2	8	2
ENG 101	English Composition 1	3	0	3
Total Credits:		30	34	39

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Biology Elective

BIO 117 & BIO 127	Human Body in Health and Disease and Human Body in Health and Disease Laboratory	4
BIO 151 & BIO 152	Anatomy and Physiology 1 and Anatomy and Physiology 2	8

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.

- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Program Chair

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### Advisor

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## Courses

### PN 101 Practical Nursing Concepts 1 8 Credits. 5 Lecture Hours. 9 Lab Hours.

An introduction to the practical nursing role with applications of basic nursing skills in lab, simulation, and clinical settings. Topics include: pharmacology, safety, nursing process, nursing history and law, and alterations in health.

Prerequisites: Admitted to the Practical Nursing Certificate program, high school biology and chemistry within the past 7 years, and STNA (minimum grade C for all courses)  
Instructor Consent Required

### PN 102 Practical Nursing Concepts 2 10 Credits. 7 Lecture Hours. 9 Lab Hours.

A continuation of PN 101, with applications of clinical reasoning and nursing skills in classroom, lab, simulation, and clinical settings. Topics include: mental health, and care of the patient with alterations in health across the lifespan.

Prerequisites: PN 101  
Instructor Consent Required

### PN 103 Practical Nursing Concepts 3 6 Credits. 4 Lecture Hours. 6 Lab Hours.

A continuation of PN 102 focusing on preparation for transition to the role of the practical nurse, with applications of nursing skills. Topics include: care of the patient with complex alterations in health, women's health/OB, and the professional role.

Prerequisites: PN 102  
Instructor Consent Required

### PN 125 Academic Success Strategies for Practical Nursing 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on strategies for academic success in the Practical Nursing Certificate program. Topics include: building skills in critical thinking, studying, mathematics, and test-taking; improving time management skills; and developing effective communication and conflict resolution skills.

Prerequisites: Instructor consent  
Instructor Consent Required

### PN 185 Practical Nursing Role Transition 2 Credits. 2 Lecture Hours. 8 Lab Hours.

Students apply practical nursing knowledge and skills while working with diverse groups of patients. Topics include: professionalism, and transition from student to practical nurse role. To pass the course, students must achieve a predetermined score on a national standardized exam.

Prerequisites: PN 122 (minimum grade C), and PN 182  
Instructor Consent Required

## Occupational Therapy Assistant Technology (OTA)

### Occupational Therapy Assistant Technology (OTA)

Occupational therapy is the art and science of directing the human response with a focus on using selected client-centered occupations to promote and maintain health, prevent disability, assess behavior, and treat or train patients with physical or psychological dysfunction.

The mission of Occupational Therapy Assistant Technology program is to prepare graduates as competent, entry-level generalists qualified to practice in the field of Occupational Therapy, to meet community workforce needs, to provide opportunities for experiential and cooperative education with exposure to non-traditional and emerging areas of practice, to educate the community, and to function within the standards of the College, the American Occupational Therapy Association, and the Accreditation Council for Occupational Therapy Education.

Graduates of the Occupational Therapy Assistant Technology program are technically qualified members of the health team who function under the supervision or consultation of a registered occupational therapist. Assistants accept clinical responsibilities in hospitals, nursing homes, schools, rehabilitation centers, or other organizations directed to maintain health and socialization.

Graduates demonstrate entry-level competency in analyzing activities and applying activities to client needs; using occupational therapy concepts and skills (such as daily living skills, group activities, evidence based interventions, and adaptive equipment); directing activity programs; managing department operations; collecting data; understanding the effect of one's behavior on the client and others; upholding the standards of the profession; identifying the need for continuing professional education and growth; and relating occupational therapy to the total health care system.

The OTA program at Cincinnati State provides unique learning opportunities for students through the Eileen Berke Occupational Therapy Center. This training laboratory is a home adjacent to the Clifton campus that has been modified with cabinetry, architectural installations, equipment, and furnishings designed to make daily life easier for individuals with disabilities or for those who simply wish to "age in place" in their own homes.

The Occupational Therapy Assistant program is accredited by The Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), 4720 Montgomery Lane, Suite 200 Bethesda, MD 20814-3449. Phone: (301) 652-AOTA. Website: [www.acoteonline.org](http://www.acoteonline.org) (<http://www.acoteonline.org>).

Graduates earn an Associate of Applied Science degree and are eligible to sit for the National Certification Examination for the Occupational Therapy Assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, graduates are Certified Occupational Therapy Assistants (COTA). Current pass rates are available in the program information on the College website (<https://www.cincinnatiastate.edu/academics/degrees-and-certificates/occupational-therapy-assistant/>).

In addition, all states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT examination. A felony conviction may affect a graduate's ability to take the NBCOT certification examination or attain state licensure.

All OTA students must complete Level II fieldwork within 20 months after completing academic coursework preparation.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Occupational Therapy Assistant Technology (OTA)

Semester 1		Lec	Lat	Credits
FYE 1XX	First Year Experience Elective (B)	1	0	1
OTA 100	Introduction to Occupational Therapy Assisting (B)	3	0	3
OTA 105	Theory of Occupational Therapy (B)	3	0	3
OTA 106	Techniques of Occupational Therapy (T)	0	4	2
OTA 107	Clinical Competency Foundations for Occupational Therapy Assistant (B)	0	2	1
ENG 101	English Composition 1 (G)	3	0	3
BIO 151	Anatomy and Physiology 1 (G)	2	3	4
Semester 2				
OTA 120	Concepts and Skills of Occupational Therapy: Pediatrics (T)	2	0	2
OTA 121	Therapeutic Media for Occupational Therapy: Pediatrics (T)	0	4	2
OTA 180	Occupational Therapy Assisting Level I Fieldwork 1 (T)	1	5	2
PSY 110	Introduction to Psychology (G)	3	0	3
MAT 105	Quantitative Reasoning (G)	2	2	3
SOC 105	Introduction to Sociology (B)	3	0	3
Semester 3				
OTA 110	Concepts and Skills of Occupational Therapy: Psychosocial (T)	2	0	2
OTA 111	Therapeutic Media for Occupational Therapy: Psychosocial (T)	0	4	2
OTA 185	Occupational Therapy Assisting Level I Fieldwork 2 (T)	1	5	2
BIO 152	Anatomy and Physiology 2 (B)	3	2	4

ENG 10X	English Composition Elective (G)	3	0	3
Semester 4				
OTA 280	Occupational Therapy Assisting Level I Fieldwork 3 (T)	1	4	2
OTA 231	Therapeutic Media for Occupational Therapy: Physical Disabilities (T)	0	6	3
OTA 233	Kinesiology for Occupational Therapy (T)	2	2	3
OTA 230	Concepts and Skills of Occupational Therapy: Physical Disabilities (T)	4	0	4
Semester 5				
OTA 245	Therapeutic Media Analysis for Occupational Therapy (T)	0	3	1
OTA 241	Fundamentals of Occupational Therapy Practice 1 (T)	1	0	1
OTA 294	OTA Level II Fieldwork 1 (T)	0	22	1
Semester 6				
OTA 295	OTA Level II Fieldwork 2 (T)	0	22	1
OTA 242	Fundamentals of Occupational Therapy Practice 2 (T)	1	0	1
Total Credits:		41	90	62

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Occupational Therapy Assistant Technology (OTA)

- Complete courses leading to an educational foundation in liberal arts and sciences, including a focus on issues related to diversity.
- Perform as a generalist with a broad exposure to the delivery models and systems used in settings where occupational therapy is currently practiced and where it is emerging as a service.
- Demonstrate entry level competence through a combination of academic and fieldwork education.
- Articulate and apply occupational therapy principles and intervention tools to achieve expected outcomes as related to occupation.
- Articulate and apply therapeutic use of occupations with individuals or groups for the purpose of participation in roles and situations in home, school, work place, community, and other settings.
- Apply occupational therapy interventions to address the physical, cognitive, psychosocial, sensory, and other aspects of performance in a variety of contexts and environments to support engagement in everyday life activities that affect health, wellbeing, and quality of life.
- Demonstrate commitment to lifelong learning and keep current with best practice.
- Uphold the ethical standards, values, and attitudes of the occupational therapy profession.
- Understand the distinct roles and responsibilities of the occupational therapist and occupational therapy assistant in the supervisory process.
- Be prepared to advocate as a professional for the occupational therapy services offered and for the recipients of those services.

## Faculty

### Program Chair

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### Fieldwork Coordinator

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### Advisor

Eileen Lanzillotta, BSN, RN  
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## Courses

### OTA 100 Introduction to Occupational Therapy Assisting 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on history, philosophy, and development of occupational therapy. Topics include: the Occupational Therapy Practice Framework, role and function of occupational therapists and occupational therapy assistants, and relationship of this field to other allied health professions. Students observe community occupational therapy settings.

Prerequisites: Admitted to OTA program (or OTA Pre-Admit status and completing Selective Enrollment steps)  
Instructor Consent Required

### OTA 101 Professionalism in Occupational Therapy 1 Credit. 0 Lecture Hour. 2 Lab Hours.

A course on basic tenets of professional behaviors required for client treatment and working in the health care field. Topics include: professional dress, written and verbal communication, time management, ethics, and professional associations.  
Prerequisites: OTA 100 (minimum grade C)

### OTA 105 Theory of Occupational Therapy 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on developmental processes of human performance. Topics include: occupational tasks and roles from birth to death; age-appropriate balance of work, self-care, and play/leisure; the impact of disease; and the therapeutic use of self.  
Prerequisites: Admitted to the OTA program through the selective enrollment process, and instructor consent  
Corequisites: OTA 106: Techniques of Occupational Therapy  
Instructor Consent Required

### OTA 106 Techniques of Occupational Therapy 2 Credits. 0 Lecture Hour. 4 Lab Hours.

A course on use of crafts and occupation-based activity as therapeutic modalities in treatment toward function. Topics include: activity analysis and therapeutic adaptations, problem-solving, and critical thinking.  
Prerequisites: Admission to the OTA program through the selective enrollment process, and instructor consent  
Corequisites: OTA 105: Theory of Occupational Therapy  
Instructor Consent Required

### OTA 107 Clinical Competency Foundations for Occupational Therapy Assistant 1 Credit. 2 Lab Hours.

A course for Occupational Therapy Assistant students on essential client care skills that provide a foundation for future OTA courses and clinical fieldwork. Students must successfully complete several practical examinations to earn a passing grade in the course.  
Prerequisites: Admitted to the OTA program through the selective enrollment process, and instructor consent  
Instructor Consent Required

### OTA 110 Concepts and Skills of Occupational Therapy: Psychosocial 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on the role of occupational therapy in the treatment of adults in a mental health setting. Topics include: analysis and observational skills, use of self and group for therapeutic intervention, application of group process, and documentation and communication.  
Prerequisites: OTA 105, OTA 106 (minimum grade C for both)

### OTA 111 Therapeutic Media for Occupational Therapy: Psychosocial 2 Credits. 0 Lecture Hour. 4 Lab Hours.

A mental health laboratory experience that accompanies OTA 110. Topics include: leadership and critical thinking skills needed in a group setting, applying group process, and using purposeful activity and crafts as therapeutic tools.  
Prerequisites: OTA 105, OTA 106 (minimum grade C for both)

**OTA 120 Concepts and Skills of Occupational Therapy: Pediatrics**  
**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the role of occupational therapy in treatment of children with physical and/or psychological dysfunction. Topics include: normal development, developmental disabilities, choosing functionally significant and age-appropriate treatment interventions, documentation, and the team approach.

Prerequisites: OTA 105, OTA 106 (minimum grade C for both)

**OTA 121 Therapeutic Media for Occupational Therapy: Pediatrics**  
**2 Credits. 0 Lecture Hour. 4 Lab Hours.**

A pediatric laboratory experience that accompanies OTA 120. Topics include: basic developmental screening; using play as a therapeutic tool; evaluating other occupational performance skills; using adaptive equipment; and therapeutic techniques for positioning, handling, and feeding.

Prerequisites: OTA 105, OTA 106 (minimum grade C for both)

**OTA 180 Occupational Therapy Assisting Level I Fieldwork 1**  
**2 Credits. 1 Lecture Hour. 5 Lab Hours.**

Directed observation and participation in a community occupational therapy setting with emphasis on pediatric topics. Students must provide proof of current certification in CPR and First Aid.

Prerequisites: OTA 105 and OTA 106 (minimum grade C for both)

**OTA 185 Occupational Therapy Assisting Level I Fieldwork 2**  
**2 Credits. 1 Lecture Hour. 5 Lab Hours.**

Directed observation and participation in a community occupational therapy setting with emphasis on psychosocial topics. Students must provide proof of current certification in CPR and First Aid.

Prerequisites: OTA 120 and OTA 121 (minimum grade C for both)

**OTA 230 Concepts and Skills of Occupational Therapy: Physical Disabilities****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the role of occupational therapy in treatment of adults and elders with physical dysfunction in settings including in-patient, out-patient and rehabilitation. Topics include: treatment techniques for various diagnoses, treatment planning and implementation, and documentation skills.

Prerequisites: OTA 110, OTA 120, OTA 180, OTA 185 (minimum grade C for all)

**OTA 231 Therapeutic Media for Occupational Therapy: Physical Disabilities****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A physical disabilities laboratory experience that accompanies OTA 230. Topics include: techniques for activities of daily living, therapeutic adaptations, adaptive/assistive equipment, community mobility, community resources, and critical thinking skills.

Prerequisites: OTA 111 and OTA 121 (minimum grade C for both)

**OTA 233 Kinesiology for Occupational Therapy**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the movement of body parts in relation to rehabilitation therapy. Topics include: kinematics and movement analysis; fabrication, application, fitting, and using orthotic positioning devices; and administering superficial thermal and mechanical modalities to improve occupational performance.

Prerequisites: OTA 110 and OTA 120 (minimum grade C for both)

**OTA 240 Fundamentals of Occupational Therapy Practice**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on professional concerns for the practicing Occupational Therapy Assistant. Topics include: licensure, liability, continuing education, national registration, and promoting occupational therapy. Students prepare for Level 2 Field Work experience.

Prerequisites: OTA 230, OTA 231, OTA 233 (minimum grade C for all)

**OTA 241 Fundamentals of Occupational Therapy Practice 1**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on professional concerns for the practicing Occupational Therapy Assistant. Topics include: role delineation, supervision, leadership, management, and promoting occupational therapy. Students prepare for the Level II internship experience.

Prerequisites: OTA 230 and OTA 231 and OTA 280 and OTA 233

**OTA 242 Fundamentals of Occupational Therapy Practice 2**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A continuation of OTA 241. Topics include: preparation for employment including licensure, liability, and the national certification exam.

Prerequisites: OTA 241

**OTA 245 Therapeutic Media Analysis for Occupational Therapy**  
**1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A course on using crafts and occupation-based activities in various clinical settings. Topics include: analyzing tasks and developing group leadership skills.

Prerequisites: OTA 230, OTA 231, OTA 233 (minimum grade C for all)

**OTA 280 Occupational Therapy Assisting Level I Fieldwork 3**  
**2 Credits. 1 Lecture Hour. 4 Lab Hours.**

Directed observation and participation in a community occupational therapy setting with emphasis on physical disabilities and geriatric topics. Students must provide proof of current certification in CPR and First Aid.

Prerequisites: OTA 180 (minimum grade C)

**OTA 294 OTA Level II Fieldwork 1****1 Credit. 0 Lecture Hour. 22 Lab Hours.**

An internship that provides 8 weeks of full-time work experience delivering occupational therapy services for various ages and conditions, under the supervision of a registered occupational therapy practitioner.

Prerequisites: OTA 230 and OTA 231 and OTA 280

**OTA 295 OTA Level II Fieldwork 2****1 Credit. 0 Lecture Hour. 22 Lab Hours.**

An internship that provides 8 weeks of full-time work experience delivering occupational therapy services for various ages and conditions, under the supervision of a registered occupational therapy practitioner.

Prerequisites: OTA 230 and OTA 231 and OTA 280

## Public Safety and Emergency Services

The Public Safety programs offer associate's degrees and certificates related to a variety of professional roles in public safety fields.

These programs allow participants to learn new skills or update the knowledge and skills needed to perform effectively on the job.

The **Emergency Medical Services** program offers an associate's degree with two majors:



- Emergency Medical Technician - Paramedic Management (p. 291) - This associate's degree prepares students for supervisory and administrative roles within the field of Emergency Medical Services.
- Emergency Medical Technician - Paramedic Science (p. 294) - This associate's degree prepares students for careers in Emergency Medical Services research or education, or employment in a hospital emergency department.
- Two certificates are offered also:
  - Emergency Medical Technician - Basic Certificate (p. 289) - The certificate covers the skills needed to care for patients at the scene of an accident or illness and while transporting patients by ambulance to the hospital. Students who complete the certificate are eligible to take the National Registry of Emergency Medical Technicians cognitive and practical examinations.
  - Paramedic Certificate (p. 294) - Students who have already earned an EMT certificate may continue their education by entering the Paramedic certificate program. After completing the certificate, students are eligible to take the National Registry exam.

The **Fire Service Technology** associate's degree program prepares students for entry-level jobs in fire service as a firefighter/emergency medical technician.

- The Fire Service Leadership (p. 297) associate's degree provides knowledge and skills to certified firefighters who are interested in furthering their careers. Firefighters must have at least five years of experience prior to beginning the second-year curriculum of this program.
- The Fire Service Certificate (p. 300) provides specific education, training, and skills needed to obtain employment at a fire department.

The **Public Safety Technology** associate's degree program prepares students to respond to the nation's need for highly trained security professionals. **This degree program and the affiliated certificates are not currently enrolling new students.**

- The Homeland Security Certificate (p. 303) provides knowledge and skills needed to effectively deal with safety and security challenges in the United States. This program was developed in response to the needs of the Transportation Security Administration (TSA).
- The Public Safety Telecommunicator Certificate (p. 303) program prepares students for employment as 911 operators and emergency medical dispatchers.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

## Emergency Medical Technician - Basic Certificate (EMTC)

### Emergency Medical Technician - Basic Certificate (EMTC)

The Emergency Medical Technician certificate covers the skills needed to provide the first level of pre-hospital care in the Emergency Medical Services system. An EMT is prepared to care for patients at the scene

of an accident or illness and while transporting patients by ambulance to the hospital. The EMT has the skills needed to assess a patient's condition and manage medical and trauma emergencies.

The EMT certificate program is approved by the Ohio Department of Public Safety, Division of Emergency Medical Services. After successful completion of the certificate program, students are eligible to take the National Registry of Emergency Medical Technicians cognitive and practical examinations.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Emergency Medical Technician—Basic Certificate (EMTC)

**Program Prerequisites:** ENG 085 Applications of College Reading and Writing or appropriate placement.

Semester 1		Lec	Lab	Credits
EMS 110	Emergency Medical Technician Theory and Practice	5	4	7
Total Credits:		5	4	7

## Faculty

### Program Chair

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### Co-op Coordinator

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## Advisors

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## Courses

### EMS 100 CPR and First Aid for the Health Care Professional 1 Credit. 1 Lecture Hour. 0 Lab Hour.

A course on life support and first aid skills. Topics include: one- and two-rescuer CPR and AED for adults, children, and infants; barrier devices; and resuscitator bags. Students who pass the course receive an American Heart Association CPR card for the Health Care Professional and First Aid card.

Prerequisites: None

### EMS 103 Emergency Medical Responder Theory and Practice 4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on how to provide immediate care for life-threatening injuries and illnesses, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the NREMT certification exam.

Prerequisites: ENG 085 or appropriate placement

**EMS 105 Emergency Medical Responder Refresher****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that provides Certified Emergency Medical Responders with a review of skills for providing immediate care for life-threatening injuries and illnesses. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 103 or current EMR certification

**EMS 110 Emergency Medical Technician Theory and Practice****7 Credits. 5 Lecture Hours. 4 Lab Hours.**

A course on assessment, care, and transportation of the ill or injured patient, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the National Registry of Emergency Medical Technicians (NREMT) certification exam.

Prerequisites: ENG 085 or appropriate placement

**EMS 115 Emergency Medical Technician Refresher****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that provides Certified Emergency Medical Technicians with a review of skills for assessment, care, and transportation of the ill or injured patient. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 110 or current EMT certification

**EMS 120 Paramedic Anatomy and Physiology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the structure and function of the human body. Topics include: medical terminology, cells, tissues, and human organ systems.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**EMS 180 Emergency Medical Technician Field Experience****Practicum****2 Credits. 0 Lecture Hour. 8 Lab Hours.**

Students who are certified EMTs gain unpaid work experience with a fire or emergency medical services department prior to entering the EMT-Paramedic Certificate program.

Prerequisites: EMS 110 and Ohio EMT certification

**EMS 200 Advanced Cardiac Life Support Provider Theory and Practice****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on knowledge and skills for evaluating and managing the first 10 minutes of an episode of ventricular fibrillation/ventricular tachycardia experienced by an adult. Students must have completed or be enrolled in technical courses for Paramedic, Nursing, or Respiratory Technology.

Prerequisites: Instructor consent

Instructor Consent Required

**EMS 205 Pediatric Advanced Life Support Theory and Practice****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on knowledge and skills for providing advanced life support care for an infant or child during the first 10 minutes of resuscitation efforts. Students must have completed or be enrolled in technical courses for Paramedic, Nursing or Respiratory Technology.

Prerequisites: Instructor consent

Instructor Consent Required

**EMS 211 Paramedic 1****7 Credits. 7 Lecture Hours. 0 Lab Hour.**

A course on knowledge and skills needed by an Emergency Medical Technician to provide advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic as outlined in the National Emergency Medical Services Educational Standards.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)

Corequisites: EMS 221 and EMS 231

Instructor Consent Required

**EMS 212 Paramedic 2****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A continuation of EMS 211, with ongoing study of the knowledge and skills needed for advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)

Corequisites: EMS 222 and EMS 232

Instructor Consent Required

**EMS 213 Paramedic 3****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A continuation of EMS 212, with ongoing study of the knowledge and skills needed for advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)

Corequisites: EMS 223 and EMS 233

**EMS 215 Paramedic Refresher****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course that provides Certified Paramedics with a review of skills for advanced life support care of the ill or injured patient. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 213 or current Paramedic certification

Instructor Consent Required

**EMS 220 Emergency Medical Services Instructor Theory and Practice****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on techniques for teaching adult learners the knowledge and skills required for the Emergency Medical Services field, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students participate in supervised teaching experiences.

Prerequisites: Instructor consent

Instructor Consent Required

**EMS 221 Paramedic 1 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 211, covering skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)

Corequisites: EMS 211 and EMS 231

**EMS 222 Paramedic 2 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 212, covering ongoing acquisition of skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)

Corequisites: EMS 212 and EMS 232

**EMS 223 Paramedic 3 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 213, covering ongoing acquisition of skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)

Corequisites: EMS 213 and EMS 233

**EMS 231 Paramedic 1 Practicum****2 Credits. 1 Lecture Hour. 9 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)

Corequisites: EMS 211 and EMS 221

**EMS 232 Paramedic 2 Practicum****3 Credits. 1 Lecture Hour. 11 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical and/or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)

Corequisites: EMS 212 and EMS 222

**EMS 233 Paramedic 3 Practicum****3 Credits. 1 Lecture Hour. 11 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical and/or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)

Corequisites: EMS 213 and EMS 223

## Emergency Medical Technician - Paramedic Management (EMTP-M)

### Emergency Medical Technician - Paramedic Management (EMTP-M)

The emergency medical technician administers life-saving care to the sick and injured. The Paramedic program at Cincinnati State leads to an Associate of Applied Science degree, and includes training in basic and advanced life support.

Students are eligible to take the National Registry cognitive and practical examinations after completing the three Paramedic Theory and Practice courses.

Students who complete the Management major are prepared to assume supervisory and administrative roles within the field of Emergency Medical Services.

Students are eligible to earn advanced standing credit for industry credentials. Students who earn all possible advanced standing credit can complete the remainder of the degree program by taking online courses.

The program is accredited by The Ohio Department of Public Safety, Division of Emergency Medical Services, P.O. Box 182073, 1970 West Broad Street, Columbus, OH 43218-2073. Phone: (614) 466-9447.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

## EMT Paramedic—Management Major (EMTP-M)

**Program Prerequisites:** MAT 093 Math Literacy, ENG 085 Applications of College Reading and Writing, or appropriate placements, and EMS 110 Emergency Medical Technician Theory and Practice or EMT-Basic Certification in the State of Ohio.

Semester 1		Lec	Lat	Credits
ENG 101	English Composition 1	3	0	3
PSY 110	Introduction to Psychology ( G)	3	0	3
MGT 101	Principles of Management ( B)	3	0	3
MAT 115	Pre-Statistics ( G)	2	2	3
FYE 1XX	First Year Experience Elective ( B)	1	0	1
Semester 2				
ENG 102	English Composition 2: Contemporary Issues ( G)	3	0	3
MGT 105	Human Resource Management ( B)	3	0	3
PHI 110	Ethics ( G)	3	0	3
COMM 110	Public Speaking ( B)	3	0	3
Semester 3				
MGT 220	Leadership ( B)	3	0	3
XXX 1XX	Technical Elective ( T)	3	0	3
XXX 1XX	Paramedic Anatomy / Physiology Elective ( B)	3	0	3
Semester 4				
EMS 211	Paramedic 1 ( T)	7	0	7
EMS 221	Paramedic 1 Lab ( T)	0	3	1
EMS 231	Paramedic 1 Practicum ( T)	1	9	2
Semester 5				

EMS 212	Paramedic 2 ( T)	0	6	6
EMS 222	Paramedic 2 Lab ( T)	0	3	1
EMS 232	Paramedic 2 Practicum ( T)	1	11	3
<b>Semester 6</b>				
EMS 213	Paramedic 3 ( T)	6	0	6
EMS 223	Paramedic 3 Lab ( T)	0	3	1
EMS 233	Paramedic 3 Practicum ( T)	1	11	3
Total Credits:		49	48	64

**First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**Paramedic Anatomy / Physiology Elective**

BIO 117	Human Body in Health and Disease	3
BIO 151 & BIO 152	Anatomy and Physiology 1 and Anatomy and Physiology 2	8
EMS 120	Paramedic Anatomy and Physiology	3

**Technical Elective**

PST 100	Introduction to Emergency Management	3
LBR 105	Introduction to Labor and Employee Relations	3
FST 228	Legal Aspects of the Emergency Services	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Emergency Medical Services (EMTP-M, EMTP-S)**

- Perform an extensive patient assessment based on chief complaint and present history
- Develop a differential diagnosis
- Develop a field diagnosis
- Formulate a plan of care
- Implement appropriate treatment
- Evaluate results of treatment and change as needed
- Consult with first responders, EMS partners, and hospital personnel
- Safely deliver patient to terminal institution

**Faculty****Program Chair**

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**Advisors**

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**Courses****EMS 100 CPR and First Aid for the Health Care Professional 1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on life support and first aid skills. Topics include: one- and two-rescuer CPR and AED for adults, children, and infants; barrier devices; and resuscitator bags. Students who pass the course receive an American Heart Association CPR card for the Health Care Professional and First Aid card.

Prerequisites: None

**EMS 103 Emergency Medical Responder Theory and Practice 4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on how to provide immediate care for life-threatening injuries and illnesses, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the NREMT certification exam.

Prerequisites: ENG 085 or appropriate placement

**EMS 105 Emergency Medical Responder Refresher 1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that provides Certified Emergency Medical Responders with a review of skills for providing immediate care for life-threatening injuries and illnesses. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 103 or current EMR certification

**EMS 110 Emergency Medical Technician Theory and Practice 7 Credits. 5 Lecture Hours. 4 Lab Hours.**

A course on assessment, care, and transportation of the ill or injured patient, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the National Registry of Emergency Medical Technicians (NREMT) certification exam.

Prerequisites: ENG 085 or appropriate placement

**EMS 115 Emergency Medical Technician Refresher 2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that provides Certified Emergency Medical Technicians with a review of skills for assessment, care, and transportation of the ill or injured patient. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 110 or current EMT certification

**EMS 120 Paramedic Anatomy and Physiology 3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the structure and function of the human body. Topics include: medical terminology, cells, tissues, and human organ systems. Prerequisites: ENG 085 and MAT 093, or appropriate placements

**EMS 180 Emergency Medical Technician Field Experience Practicum****2 Credits. 0 Lecture Hour. 8 Lab Hours.**

Students who are certified EMTs gain unpaid work experience with a fire or emergency medical services department prior to entering the EMT-Paramedic Certificate program.

Prerequisites: EMS 110 and Ohio EMT certification

**EMS 200 Advanced Cardiac Life Support Provider Theory and Practice****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on knowledge and skills for evaluating and managing the first 10 minutes of an episode of ventricular fibrillation/ventricular tachycardia experienced by an adult. Students must have completed or be enrolled in technical courses for Paramedic, Nursing, or Respiratory Technology.

Prerequisites: Instructor consent

Instructor Consent Required

**EMS 205 Pediatric Advanced Life Support Theory and Practice****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on knowledge and skills for providing advanced life support care for an infant or child during the first 10 minutes of resuscitation efforts. Students must have completed or be enrolled in technical courses for Paramedic, Nursing or Respiratory Technology.

Prerequisites: Instructor consent

Instructor Consent Required

**EMS 211 Paramedic 1****7 Credits. 7 Lecture Hours. 0 Lab Hour.**

A course on knowledge and skills needed by an Emergency Medical Technician to provide advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic as outlined in the National Emergency Medical Services Educational Standards.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)

Corequisites: EMS 221 and EMS 231

Instructor Consent Required

**EMS 212 Paramedic 2****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A continuation of EMS 211, with ongoing study of the knowledge and skills needed for advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)

Corequisites: EMS 222 and EMS 232

Instructor Consent Required

**EMS 213 Paramedic 3****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A continuation of EMS 212, with ongoing study of the knowledge and skills needed for advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)

Corequisites: EMS 223 and EMS 233

**EMS 215 Paramedic Refresher****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course that provides Certified Paramedics with a review of skills for advanced life support care of the ill or injured patient. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 213 or current Paramedic certification

Instructor Consent Required

**EMS 220 Emergency Medical Services Instructor Theory and Practice****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on techniques for teaching adult learners the knowledge and skills required for the Emergency Medical Services field, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students participate in supervised teaching experiences.

Prerequisites: Instructor consent

Instructor Consent Required

**EMS 221 Paramedic 1 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 211, covering skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)

Corequisites: EMS 211 and EMS 231

**EMS 222 Paramedic 2 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 212, covering ongoing acquisition of skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)

Corequisites: EMS 212 and EMS 232

**EMS 223 Paramedic 3 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 213, covering ongoing acquisition of skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)

Corequisites: EMS 213 and EMS 233

**EMS 231 Paramedic 1 Practicum****2 Credits. 1 Lecture Hour. 9 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)

Corequisites: EMS 211 and EMS 221

**EMS 232 Paramedic 2 Practicum****3 Credits. 1 Lecture Hour. 11 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical and/or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)

Corequisites: EMS 212 and EMS 222

**EMS 233 Paramedic 3 Practicum****3 Credits. 1 Lecture Hour. 11 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical and/or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)

Corequisites: EMS 213 and EMS 223

## Emergency Medical Technician - Paramedic Science & Paramedic Certificate (EMTP-S & EMTPC)

### Emergency Medical Technician - Paramedic Science (EMTP-S)

The emergency medical technician administers life-saving care to the sick and injured. The Paramedic program at Cincinnati State leads to an Associate of Applied Science degree, and includes training in basic and advanced life support.

Students are eligible to take the National Registry cognitive and practical examinations after completing the three Paramedic Theory and Practice courses.

Students who complete the Paramedic Science major are prepared for careers in Emergency Medical Services research or education, or employment in a hospital emergency department. Students who are interested in eventual transition into another allied health career field should consider the Paramedic Science major.

The Paramedic curriculum has been approved by the Ohio Department of Public Safety, Division of Emergency Medical Services, P.O. Box 182073, 1970 West Broad Street, Columbus, OH 43218-2073. Phone: (614) 466-9447.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Emergency Medical Technician - Paramedic Certificate (EMTPC)

Students who have already earned the credential National Registry Emergency Medical Technician (NREMT) may continue their education in the Paramedic certificate program.

The curriculum is approved by the Ohio Department of Public Safety, Division of Emergency Medical Services. After completing the certificate, students are eligible to take the National Registry exam for Paramedics.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## EMT Paramedic—Science Major (EMTP-S)

**Program Prerequisites:** MAT 093 Math Literacy or appropriate placement, and EMS 110 Emergency Medical Technician Theory and Practice or EMT-Basic Certification in the State of Ohio.

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
BIO 151	Anatomy and Physiology 1 ( <b>G</b> )	3	2	4
MAT 115	Pre-Statistics ( <b>G</b> )	2	2	3
PSY 110	Introduction to Psychology ( <b>G</b> )	3	0	3
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
<b>Semester 2</b>				
ENG 102	English Composition 2: Contemporary Issues ( <b>G</b> )	3	0	3
SOC 105	Introduction to Sociology ( <b>B</b> )	3	0	3
BIO 152	Anatomy and Physiology 2 ( <b>B</b> )	3	2	4
BIO 220	Microbiology ( <b>B</b> )	2	3	3
<b>Semester 3</b>				
EMS 211	Paramedic 1 ( <b>T</b> )	7	0	7
COMM 110	Public Speaking ( <b>B</b> )	3	0	3
EMS 221	Paramedic 1 Lab ( <b>T</b> )	0	3	1
EMS 231	Paramedic 1 Practicum ( <b>T</b> )	1	9	2
<b>Semester 4</b>				
EMS 212	Paramedic 2 ( <b>T</b> )	6	0	6
BIO 240	Pathophysiology ( <b>B</b> )	3	0	3
EMS 222	Paramedic 2 Lab ( <b>T</b> )	0	3	1
EMS 232	Paramedic 2 Practicum ( <b>T</b> )	1	11	3
<b>Semester 5</b>				
EMS 213	Paramedic 3 ( <b>T</b> )	6	0	6
EMS 223	Paramedic 3 Lab ( <b>T</b> )	0	3	1
EMS 233	Paramedic 3 Practicum ( <b>T</b> )	1	11	3
<b>Total Credits:</b>		<b>51</b>	<b>49</b>	<b>63</b>

#### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Emergency Medical Technician— Paramedic Certificate (EMTPC)

**Program Prerequisites:** EMT-Basic Certification from the State of Ohio, and ENG 085 Applications of College Reading and Writing and AFM 095 Foundations of Basic Algebra or appropriate placements.

Semester 1		Lec	Lab	Credits
EMS 110	Emergency Medical Technician Theory and Practice	5	4	7
Semester 2				
XXX 1XX	Paramedic Anatomy / Physiology Elective	3	0	3
Semester 3				
EMS 211	Paramedic 1	7	0	7
EMS 221	Paramedic 1 Lab	0	3	1
EMS 231	Paramedic 1 Practicum	1	9	2
Semester 4				
EMS 212	Paramedic 2	6	0	6
EMS 222	Paramedic 2 Lab	0	3	1
EMS 232	Paramedic 2 Practicum	1	11	3
Semester 5				
EMS 213	Paramedic 3	6	0	6
EMS 223	Paramedic 3 Lab	0	3	1
EMS 233	Paramedic 3 Practicum	1	11	3
Total Credits:		30	44	40

### Paramedic Anatomy / Physiology Elective

BIO 151 & BIO 152	Anatomy and Physiology 1 and Anatomy and Physiology 2	8
EMS 120	Paramedic Anatomy and Physiology	3
BIO 117	Human Body in Health and Disease	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Emergency Medical Services (EMTP-M, EMTP-S)

- Perform an extensive patient assessment based on chief complaint and present history
- Develop a differential diagnosis
- Develop a field diagnosis
- Formulate a plan of care

- Implement appropriate treatment
- Evaluate results of treatment and change as needed
- Consult with first responders, EMS partners, and hospital personnel
- Safely deliver patient to terminal institution

## Faculty

### Program Chair

Anthony (Tony) Kramer, BSN, RN, NREMT-P  
anthony.kramer@cincinnatiastate.edu

### Co-op Coordinator

Chris Hautman, AAS, NREMT-P  
christopher.hautman@cincinnatiastate.edu

### Advisors

Janice Evans, MSN, RN  
janice.evans@cincinnatiastate.edu

## Courses

### EMS 100 CPR and First Aid for the Health Care Professional 1 Credit. 1 Lecture Hour. 0 Lab Hour.

A course on life support and first aid skills. Topics include: one- and two-rescuer CPR and AED for adults, children, and infants; barrier devices; and resuscitator bags. Students who pass the course receive an American Heart Association CPR card for the Health Care Professional and First Aid card.

Prerequisites: None

### EMS 103 Emergency Medical Responder Theory and Practice 4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on how to provide immediate care for life-threatening injuries and illnesses, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the NREMT certification exam.

Prerequisites: ENG 085 or appropriate placement

### EMS 105 Emergency Medical Responder Refresher 1 Credit. 1 Lecture Hour. 0 Lab Hour.

A course that provides Certified Emergency Medical Responders with a review of skills for providing immediate care for life-threatening injuries and illnesses. The course incorporates continuing education/ recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 103 or current EMR certification

### EMS 110 Emergency Medical Technician Theory and Practice 7 Credits. 5 Lecture Hours. 4 Lab Hours.

A course on assessment, care, and transportation of the ill or injured patient, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the National Registry of Emergency Medical Technicians (NREMT) certification exam.

Prerequisites: ENG 085 or appropriate placement

**EMS 115 Emergency Medical Technician Refresher****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that provides Certified Emergency Medical Technicians with a review of skills for assessment, care, and transportation of the ill or injured patient. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 110 or current EMT certification

**EMS 120 Paramedic Anatomy and Physiology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the structure and function of the human body. Topics include: medical terminology, cells, tissues, and human organ systems.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**EMS 180 Emergency Medical Technician Field Experience Practicum****2 Credits. 0 Lecture Hour. 8 Lab Hours.**

Students who are certified EMTs gain unpaid work experience with a fire or emergency medical services department prior to entering the EMT-Paramedic Certificate program.

Prerequisites: EMS 110 and Ohio EMT certification

**EMS 200 Advanced Cardiac Life Support Provider Theory and Practice****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on knowledge and skills for evaluating and managing the first 10 minutes of an episode of ventricular fibrillation/ventricular tachycardia experienced by an adult. Students must have completed or be enrolled in technical courses for Paramedic, Nursing, or Respiratory Technology.

Prerequisites: Instructor consent

Instructor Consent Required

**EMS 205 Pediatric Advanced Life Support Theory and Practice****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on knowledge and skills for providing advanced life support care for an infant or child during the first 10 minutes of resuscitation efforts. Students must have completed or be enrolled in technical courses for Paramedic, Nursing or Respiratory Technology.

Prerequisites: Instructor consent

Instructor Consent Required

**EMS 211 Paramedic 1****7 Credits. 7 Lecture Hours. 0 Lab Hour.**

A course on knowledge and skills needed by an Emergency Medical Technician to provide advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic as outlined in the National Emergency Medical Services Educational Standards.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)

Corequisites: EMS 221 and EMS 231

Instructor Consent Required

**EMS 212 Paramedic 2****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A continuation of EMS 211, with ongoing study of the knowledge and skills needed for advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)

Corequisites: EMS 222 and EMS 232

Instructor Consent Required

**EMS 213 Paramedic 3****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A continuation of EMS 212, with ongoing study of the knowledge and skills needed for advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)

Corequisites: EMS 223 and EMS 233

**EMS 215 Paramedic Refresher****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course that provides Certified Paramedics with a review of skills for advanced life support care of the ill or injured patient. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 213 or current Paramedic certification

Instructor Consent Required

**EMS 220 Emergency Medical Services Instructor Theory and Practice****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on techniques for teaching adult learners the knowledge and skills required for the Emergency Medical Services field, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students participate in supervised teaching experiences.

Prerequisites: Instructor consent

Instructor Consent Required

**EMS 221 Paramedic 1 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 211, covering skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)

Corequisites: EMS 211 and EMS 231

**EMS 222 Paramedic 2 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 212, covering ongoing acquisition of skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)

Corequisites: EMS 212 and EMS 232



**EMS 223 Paramedic 3 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 213, covering ongoing acquisition of skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)

Corequisites: EMS 213 and EMS 233

**EMS 231 Paramedic 1 Practicum****2 Credits. 1 Lecture Hour. 9 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)

Corequisites: EMS 211 and EMS 221

**EMS 232 Paramedic 2 Practicum****3 Credits. 1 Lecture Hour. 11 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical and/or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)

Corequisites: EMS 212 and EMS 222

**EMS 233 Paramedic 3 Practicum****3 Credits. 1 Lecture Hour. 11 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical and/or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)

Corequisites: EMS 213 and EMS 223

## Fire Service Leadership (FSTL)

### Fire Service Leadership (FSTL)

The Fire Service Leadership program provides additional knowledge and expertise for certified firefighters who are interested in furthering their careers while earning an Associate of Applied Science degree.

The scope of fire service encompasses many challenging community needs. Fire service professionals must be prepared to respond to and meet these needs. Effective leaders in today's fire service incorporate changing technologies and skills into their fire department Standard Operating Guidelines. Effective leaders also must be experts in fire behavior and safety, display decisive internal and external communication, be familiar with laws that govern Fire/EMS, and embrace diversity within the department and community.

Firefighters must have at least five years of experience prior to beginning the second year curriculum of the Fire Service Leadership program.

Students are eligible to earn advanced standing credit for industry credentials. Students who earn all possible advanced standing credit can complete the remainder of the degree program by taking online courses.

Students must earn grades of C or better in all FST classes.

Applicants must present copies of previous certifications pertaining to fire fighting and emergency medical services.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

## Fire Service Leadership (FSTL)

**Program Prerequisites:** MAT 093 Math Literacy, ENG 085

Applications of College Reading and Writing, or appropriate placement, and a minimum of five years of experience as a firefighter prior to beginning the second year curriculum of this program.

Semester 1		Lec	Lat	Credits
FST 123	Principles of Emergency Services ( B )	3	0	3
ENG 101	English Composition 1 ( G )	3	0	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
Semester 2				
FST 120	Fire Behavior and Combustion ( T )	2	0	2
FST 129	Fire Prevention ( T )	3	0	3
PHI 110	Ethics ( T )	3	0	3
FST 1XX	Fire Service Technology Elective ( B )	7	12	11
Semester 3				
FST 126	Fire Protection Systems ( T )	2	0	2
ENG 10X	English Composition Elective ( G )	3	0	3
MAT 1XX	Mathematics Elective ( G )	2	2	3
Semester 4				
XXX XXX	Social Science Elective ( G )	3	0	3
FST 223	Principles of Fire and Emergency Services Safety and Survival ( T )	2	0	2
COMM 1XX	Communications Elective ( B )	3	0	3
Semester 5				
FST 265	Fire Service Instructor ( T )	2	3	3
FST 161	Fire Officer 1 ( T )	4	0	4
MGT 101	Principles of Management ( G )	3	0	3
Semester 6				

FST 228	Legal Aspects of the Emergency Services ( <b>T</b> )	3	0	3
FST 226	Building Construction for Fire Protection ( <b>T</b> )	3	0	3
FST 162	Fire Officer 2 ( <b>T</b> )	4	0	4
Total Credits:		56	17	62

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Fire Service Technology Elective

FST 131 & FST 132	Firefighter Professional 1 and Firefighter Professional 2	11
FST 145		11

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Mathematics Elective

MAT 115	Pre-Statistics	3
MAT 131	Statistics 1	3

### Social Science Elective

PSY 110	Introduction to Psychology	3
SOC 105	Introduction to Sociology	3

### Communications Elective

COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3

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The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Fire Safety (FST, FSTL)

- Perform and function as a Firefighter 2 certified by Ohio Department of Public Safety (ODPS) and nationally accredited by National Board on Fire Service Professional Qualifications (commonly known as The Pro-Boards)

- Perform and function as an Emergency Medical Technician (EMT) certified as an Ohio and National EMT
- Demonstrate the importance and value of functioning as a team member at emergency scenes
- Provide additional value to the community through non-emergency assistance involving life safety education, inspections, and support at community events
- Promote and practice safety at all fire department and community functions
- Display and promote a healthy lifestyle and environment

## Faculty

### Advisor

Phil Vossmeier, AAS FF2, F1  
philip.vossmeier@cincinnatiastate.edu

## Courses

### FST 101 Fire Cadet Fundamentals

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamental concepts and skills that apply to the fire cadet. Topics include: safety procedures and equipment, self-discipline, fire ground principles, emergency communication and systems, and evolving technologies and trends in firefighting.

Prerequisites: Instructor Consent

Instructor Consent Required

### FST 103 Evolution of the Fire Service

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the growth of the fire service from its creation through the 21st century. Topics include: changes in suppression methods, building codes, and rescue techniques; administrative philosophies; and personnel behaviors.

Prerequisites: None

### FST 105 Firefighter Physical Preparedness

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on preparing individuals for the rigors of firefighting, including balanced physical conditioning that incorporates all basic factors of fitness.

Prerequisites: Instructor Consent

Instructor Consent Required

### FST 120 Fire Behavior and Combustion

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on theories and fundamentals of how and why fires start and spread, and how fires are controlled. Topics include: the chemistry of fire, combustion and heat transfer, stages of fire growth, toxic gases and smoke, and extinguishing agents.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

Ohio Transfer Assurance Guide Approved

### FST 123 Principles of Emergency Services

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fire protection as an industry. Topics include: philosophy and history of fire services, fire departments as part of local government, protection systems, regulations and laws, and introductory fire ground strategy and tactics.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

Ohio Transfer Assurance Guide Approved

**FST 126 Fire Protection Systems****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on design and operation of fire alarm systems. Topics include: water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection, and portable fire extinguishers.

Prerequisites: ENG 085 and MAT 093, or appropriate placements  
Ohio Transfer Assurance Guide Approved

**FST 129 Fire Prevention****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts of fire prevention. Topics include: history, philosophy, organization, and operation of a fire prevention bureau; use and application of codes and standards; plan review; fire inspections; fire and life safety education; and fire investigation.

Prerequisites: ENG 085 and MAT 093, or appropriate placements  
Ohio Transfer Assurance Guide Approved

**FST 131 Firefighter Professional 1****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course covering NFPA 1001 Firefighter 1 and 2 objectives. Topics include: ladders, personal protection clothing, self-contained breathing apparatus (SCBA), fire extinguishers, search and rescue, ropes and knots, and hoses and nozzles. Students must successfully complete FST 131 and FST 132 and earn a passing score on the state firefighter exam to obtain Ohio Firefighter II certification.

Prerequisites: ENG 085 or appropriate placement, and FST 101 and FST 105, and instructor consent  
Instructor Consent Required

**FST 132 Firefighter Professional 2****5 Credits. 3 Lecture Hours. 6 Lab Hours.**

A continuation of FST 131, covering NFPA 1001 Firefighter 1 and 2 objectives. Topics include: fire streams and foam, auto extrication, fire control, fire protection systems, and pre-incident surveys. Students must earn a passing score on the state firefighter exam to obtain Ohio Firefighter II certification. PROBOARD accreditation is available for interested students.

Prerequisites: FST 131 and instructor consent  
Instructor Consent Required

**FST 136 Emergency Vehicle Operator****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on safe driving practices while responding in emergency vehicles. Topics include: techniques for safe operation, post-collision analysis, and unsafe practices during emergency response. Students must have a valid driver's license.

Prerequisites: Instructor consent, and ENG 080 and MAT 093, or appropriate placements  
Instructor Consent Required

**FST 161 Fire Officer 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on preparing for the role of company officer, using NFPA 1021 Fire Officers Professional Qualifications Level 1 objectives. Topics include: human resource management, community and government relations, inspections, investigations, emergency service delivery, and safety. This course is delivered in an online format.

Prerequisites: FST 142

**FST 162 Fire Officer 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of FST 161, using standards defined for NFPA 1021 Fire Officers Professional Qualifications Level 2. This course is delivered in an online format.

Prerequisites: FST 161

**FST 223 Principles of Fire and Emergency Services Safety and Survival****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the history and basic principles of the national firefighter life safety initiatives, focusing on the need for cultural change throughout the emergency services.

Prerequisites: FST 142 or FST 145  
Ohio Transfer Assurance Guide Approved

**FST 226 Building Construction for Fire Protection****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on building construction in relation to firefighting and life safety. Topics include: elements of construction and design, building inspection factors, pre-planning fire operations, and safe operations during emergencies.

Prerequisites: FST 141  
Ohio Transfer Assurance Guide Approved

**FST 228 Legal Aspects of the Emergency Services****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on legal issues related to emergency services. Topics include: the American legal system; recent court decisions, events, and statutes; Americans with Disabilities Act; Family Medical Leave Act; Fair Labor Standards Act; and HIPAA.

Prerequisites: FST 100

**FST 258 Rapid Assistance and Self-Rescue Operations****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on saving your own life or saving lives of other firefighters. Topics include: MAYDAY, fire ground safety, communications, self awareness, rapid entry team preparedness, and survival techniques.

Prerequisites: FST 132

**FST 265 Fire Service Instructor****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for teaching adult learners knowledge and skills required for the Fire Services field, using NFPA 1041 Instructor 1 and 2 objectives. Topics include: domains of learning, learning outcomes and objectives, classroom preparedness, student safety, and legal obligations. Students must have five years experience as a firefighter.

Prerequisites: FST 142 and Instructor consent  
Instructor Consent Required

**FST 268 Fire Safety Inspector****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fire safety inspection procedures and responsibilities, using NFPA 1031 objectives. Students who are members of an Ohio Fire Department may take the state exam for Fire Safety Inspector at the end of the course.

Prerequisites: FST 142

**FST 294 Internship 1: Fire Service Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in an unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FST 142 or FST 145 (minimum grade C for either)

Instructor Consent Required

## Fire Service Technology & Fire Service Certificate (FST & FSTC)

### Fire Service Technology (FST)

The Fire Service Technology program at Cincinnati State prepares students for entry-level jobs in fire service as a firefighter/emergency medical technician (EMT).

This program meets National Fire Protection Association standards and objectives for Firefighter 1 and Firefighter 2. Graduates of the program earn an Associate of Applied Science degree.

For hands-on fire training class eligibility, students must:

- Successfully perform and complete the Fire Cadet Fitness Evaluation.
- Complete the State Application for Admission to a Fire Training Course. This application screens for age, criminal convictions, and substance abuse that may disqualify students from state certification. Documentation must be provided to the Ohio Department of Public Safety for questionable cases.
- Have the Physical Exam Form (for firefighters) completed by a qualified physician.
- Present copies of previous certifications held pertaining to firefighting and emergency medical services.

Graduates who complete the associate's degree may continue their education at the University of Cincinnati to earn a bachelor's degree.

The Fire Service Technology program is accredited by The Ohio Department of Public Safety, Department of Emergency Medical Services, P.O. Box 182073, 1970 West Broad Street, Columbus, OH 43218-2073. Phone: (614) 466-9447.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

### Fire Service Certificate (FSTC)

The Fire Service Certificate program provides specific education, training, and skills needed to obtain employment at a fire department. The Emergency Medical Technician course and the Firefighter 1 and Firefighter 2 courses that are part of the certificate prepare students for the State of Ohio's Certification exams.

Successful completion of the state exams is required before certification cards are issued by the State of Ohio.

The Fire Service certificate program offers a fast track to employment. All credits earned while completing this certificate also can be applied to the Fire Service Technology associate's degree.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

### Fire Service Technology (FST)

**Program Prerequisite:** MAT 093 Math Literacy, ENG 085 Applications of College Reading and Writing, or appropriate placement.

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
FYE 1XX		1	0	1
First Year Experience Elective (B)				
FST 101	Fire Cadet Fundamentals (B)	1	2	2
FST 105	Firefighter Physical Preparedness (T)	1	2	2
EMS 110	Emergency Medical Technician Theory and Practice (T)	5	4	7
FST 136	Emergency Vehicle Operator (T)	0	2	1
<b>Semester 2</b>				
FST 131	Firefighter Professional 1 (B)	4	6	6
ENG 101	English Composition 1 (G)	3	0	3
FST 123	Principles of Emergency Services (B)	3	0	3
FST 120	Fire Behavior and Combustion (T)	2	0	2
<b>Semester 3</b>				
FST 129	Fire Prevention (T)	3	0	3
FST 132	Firefighter Professional 2 (T)	3	6	5
1XX Mathematics Elective (G)		2	2	3
10X English Composition Elective (G)		3	0	3
<b>Semester 4</b>				
FST 126	Fire Protection Systems (T)	2	0	2
FST 294	Internship 1: Fire Service Technology (T)	1	40	2
FST 228	Legal Aspects of the Emergency Services (T)	3	0	3
XXX XXX Social Science Elective (G)		3	0	3
XXX XXX EMS / FST Elective (T)		1	3	2
<b>Semester 5</b>				
FST 223	Principles of Fire and Emergency Services Safety and Survival (T)	2	0	2

FST 226	Building Construction for Fire Protection ( <b>T</b> )	3	0	3
COMM 1XX	Communication Elective ( <b>B</b> )	3	0	3
PHI 110	Ethics ( <b>G</b> )	3	0	3
Total Credits:		52	67	64

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### Mathematics Elective

MAT 115	Pre-Statistics	3
MAT 120		
MAT 131	Statistics 1	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Social Science Elective

PSY 110	Introduction to Psychology	3
SOC 105	Introduction to Sociology	3

### EMS / FST Elective

EMS 120	Paramedic Anatomy and Physiology	3
FST 258	Rapid Assistance and Self-Rescue Operations	2

### Communication Elective

COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

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## Fire Service Certificate (FSTC)

**Program Prerequisites:** ENG 085 Applications of College Reading and Writing (minimum grade C) or appropriate placement.

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
FST 105	Firefighter Physical Preparedness	1	2	2
FST 101	Fire Cadet Fundamentals	1	2	2
FST 136	Emergency Vehicle Operator	0	2	1
EMS 110	Emergency Medical Technician Theory and Practice	5	4	7
<b>Semester 2</b>				
FST 131	Firefighter Professional 1	4	6	6
FST 123	Principles of Emergency Services	3	0	3
FST 120	Fire Behavior and Combustion	2	0	2
<b>Semester 3</b>				
FST 129	Fire Prevention	3	0	3
FST 132	Firefighter Professional 2	3	6	5
Total Credits:		22	22	31

## Fire Safety (FST, FSTL)

- Perform and function as a Firefighter 2 certified by Ohio Department of Public Safety (ODPS) and nationally accredited by National Board on Fire Service Professional Qualifications (commonly known as The Pro-Boards)
- Perform and function as an Emergency Medical Technician (EMT) certified as an Ohio and National EMT
- Demonstrate the importance and value of functioning as a team member at emergency scenes
- Provide additional value to the community through non-emergency assistance involving life safety education, inspections, and support at community events
- Promote and practice safety at all fire department and community functions
- Display and promote a healthy lifestyle and environment

## Faculty

### Advisor

Phil Vossmeier, AAS FF 2, F1  
philip.vossmeier@cincinnatiastate.edu

## Courses

### FST 101 Fire Cadet Fundamentals 2 Credits. 1 Lecture Hour. 2 Lab Hours.

A course on fundamental concepts and skills that apply to the fire cadet. Topics include: safety procedures and equipment, self-discipline, fire ground principles, emergency communication and systems, and evolving technologies and trends in firefighting.

Prerequisites: Instructor Consent  
Instructor Consent Required

### FST 103 Evolution of the Fire Service 2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on the growth of the fire service from its creation through the 21st century. Topics include: changes in suppression methods, building codes, and rescue techniques; administrative philosophies; and personnel behaviors.

Prerequisites: None

**FST 105 Firefighter Physical Preparedness****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on preparing individuals for the rigors of firefighting, including balanced physical conditioning that incorporates all basic factors of fitness.

Prerequisites: Instructor Consent  
Instructor Consent Required

**FST 120 Fire Behavior and Combustion****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on theories and fundamentals of how and why fires start and spread, and how fires are controlled. Topics include: the chemistry of fire, combustion and heat transfer, stages of fire growth, toxic gases and smoke, and extinguishing agents.

Prerequisites: ENG 085 and MAT 093, or appropriate placements  
Ohio Transfer Assurance Guide Approved

**FST 123 Principles of Emergency Services****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fire protection as an industry. Topics include: philosophy and history of fire services, fire departments as part of local government, protection systems, regulations and laws, and introductory fire ground strategy and tactics.

Prerequisites: ENG 085 and MAT 093, or appropriate placements  
Ohio Transfer Assurance Guide Approved

**FST 126 Fire Protection Systems****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on design and operation of fire alarm systems. Topics include: water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection, and portable fire extinguishers.

Prerequisites: ENG 085 and MAT 093, or appropriate placements  
Ohio Transfer Assurance Guide Approved

**FST 129 Fire Prevention****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts of fire prevention. Topics include: history, philosophy, organization, and operation of a fire prevention bureau; use and application of codes and standards; plan review; fire inspections; fire and life safety education; and fire investigation.

Prerequisites: ENG 085 and MAT 093, or appropriate placements  
Ohio Transfer Assurance Guide Approved

**FST 131 Firefighter Professional 1****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course covering NFPA 1001 Firefighter 1 and 2 objectives. Topics include: ladders, personal protection clothing, self-contained breathing apparatus (SCBA), fire extinguishers, search and rescue, ropes and knots, and hoses and nozzles. Students must successfully complete FST 131 and FST 132 and earn a passing score on the state firefighter exam to obtain Ohio Firefighter II certification.

Prerequisites: ENG 085 or appropriate placement, and FST 101 and FST 105, and instructor consent  
Instructor Consent Required

**FST 132 Firefighter Professional 2****5 Credits. 3 Lecture Hours. 6 Lab Hours.**

A continuation of FST 131, covering NFPA 1001 Firefighter 1 and 2 objectives. Topics include: fire streams and foam, auto extrication, fire control, fire protection systems, and pre-incident surveys. Students must earn a passing score on the state firefighter exam to obtain Ohio Firefighter II certification. PROBOARD accreditation is available for interested students.

Prerequisites: FST 131 and instructor consent  
Instructor Consent Required

**FST 136 Emergency Vehicle Operator****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on safe driving practices while responding in emergency vehicles. Topics include: techniques for safe operation, post-collision analysis, and unsafe practices during emergency response. Students must have a valid driver's license.

Prerequisites: Instructor consent, and ENG 080 and MAT 093, or appropriate placements  
Instructor Consent Required

**FST 161 Fire Officer 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on preparing for the role of company officer, using NFPA 1021 Fire Officers Professional Qualifications Level 1 objectives. Topics include: human resource management, community and government relations, inspections, investigations, emergency service delivery, and safety. This course is delivered in an online format.

Prerequisites: FST 142

**FST 162 Fire Officer 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of FST 161, using standards defined for NFPA 1021 Fire Officers Professional Qualifications Level 2. This course is delivered in an online format.

Prerequisites: FST 161

**FST 223 Principles of Fire and Emergency Services Safety and Survival****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the history and basic principles of the national firefighter life safety initiatives, focusing on the need for cultural change throughout the emergency services.

Prerequisites: FST 142 or FST 145  
Ohio Transfer Assurance Guide Approved

**FST 226 Building Construction for Fire Protection****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on building construction in relation to firefighting and life safety. Topics include: elements of construction and design, building inspection factors, pre-planning fire operations, and safe operations during emergencies.

Prerequisites: FST 141  
Ohio Transfer Assurance Guide Approved

**FST 228 Legal Aspects of the Emergency Services****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on legal issues related to emergency services. Topics include: the American legal system; recent court decisions, events, and statutes; Americans with Disabilities Act; Family Medical Leave Act; Fair Labor Standards Act; and HIPAA.

Prerequisites: FST 100

**FST 258 Rapid Assistance and Self-Rescue Operations****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on saving your own life or saving lives of other firefighters. Topics include: MAYDAY, fire ground safety, communications, self awareness, rapid entry team preparedness, and survival techniques. Prerequisites: FST 132

**FST 265 Fire Service Instructor****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for teaching adult learners knowledge and skills required for the Fire Services field, using NFPA 1041 Instructor 1 and 2 objectives. Topics include: domains of learning, learning outcomes and objectives, classroom preparedness, student safety, and legal obligations. Students must have five years experience as a firefighter.

Prerequisites: FST 142 and Instructor consent  
Instructor Consent Required

**FST 268 Fire Safety Inspector****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fire safety inspection procedures and responsibilities, using NFPA 1031 objectives. Students who are members of an Ohio Fire Department may take the state exam for Fire Safety Inspector at the end of the course.

Prerequisites: FST 142

**FST 294 Internship 1: Fire Service Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in an unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FST 142 or FST 145 (minimum grade C for either)  
Instructor Consent Required

## Public Safety Technology, Homeland Security & Telecommunicator Certificates (PST, HLSC, & PSTC)

**Note: The programs listed on this page are not currently admitting new students.**

**Public Safety Technology (PST)**

The Public Safety Technology program prepares students to respond to the nation's need for highly trained security professionals who understand the global threat to our infrastructure.

While earning an Associate of Applied Science degree, students learn to help secure borders, airports, waterways, and seaports; prepare for and respond to natural and man-made disasters; and provide counter-terrorism and law enforcement intelligence support.

The program was developed in conjunction with local industry representatives to assure that local needs and requirements were addressed. Students who complete the program receive training and certification relevant to a public safety career and gain skills that may enhance upward mobility for career professionals.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

**Homeland Security Certificate (HLSC)**

The Homeland Security Certificate provides students with the knowledge and skills needed to effectively deal with safety and security challenges in the United States. This program was developed in response to the needs of the Transportation Security Administration (TSA).

Students gain understanding of fundamental elements of homeland security as well as specialized topics including detecting threats to security, and protecting critical infrastructure and transportation nodes.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

**Public Safety Telecommunicator Certificate (PSTC)**

The Public Safety Telecommunicator Certificate program prepares students for employment as 911 operators and emergency medical dispatchers. These specialized public safety roles require far more than answering a telephone and dispatching a response unit to a designated location.

Students gain knowledge and skills related to communications technologies, public safety issues and concerns, and the telecommunicator's role in the U.S. Department of Homeland Security's NIMS Incident Command System.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

**Public Safety Technology (PST)**

Semester 1		Lec	Lat	Credits
PST 100	Introduction to Emergency Management ( <b>B</b> )	3	0	3
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
PSY 110	Introduction to Psychology ( <b>G</b> )	3	0	3
CRJ 105	Introduction to Criminal Justice ( <b>B</b> )	3	0	3
MAT 115	Pre-Statistics	2	2	3
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
Semester 2				
PST 110	Introduction to Homeland Security ( <b>T</b> )	3	0	3
PHI 110	Ethics ( <b>G</b> )	3	0	3
PST 120	Intelligence Analysis and Security Management ( <b>T</b> )	3	0	3
EVT 105	Environmental Sampling ( <b>T</b> )	2	3	3

ENG 10X English Composition Elective (G)		3	0	3
<b>Semester 3</b>				
PST 115	Introduction to Terrorist Groups (T)	3	0	3
COMM 110	Public Speaking (B)	3	0	3
CRJ 125	Criminology (B)	3	0	3
PST 205	Transportation Security (T)	3	0	3
<b>Semester 4</b>				
CRJ 135	Criminal Law (B)	3	0	3
EVT 187	Materials Transportation Safety and Security (T)	1	2	2
PST 125	Public Safety Contingency Planning (T)	3	0	3
PST 140	Public Safety Telecommunicator	6	0	3
EVT 215	Utilities Safety and Security (T)	1	2	2
<b>Semester 5</b>				
EVT 237	Environmental Impact of Weapons of Mass Destruction (T)	1	2	2
EVT 257	Environmental Risk Assessment (T)	1	2	2
PST 29X Public Safety Technology Experiential Learning Elective (T)		1	40	2
Total Credits:		62		

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### PST Experiential Learning Elective

PST 291	Full-Time Cooperative Education 1: Public Safety Technology	2
PST 294	Full Time Internship 1: Public Safety Technology	2

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G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Homeland Security Certificate (HLSC)

**Program Prerequisites:** AFL 085 and AFM 095 Foundations of Basic Algebra or appropriate placement test scores.

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
PST 110	Introduction to Homeland Security	3	0	3
PST 120	Intelligence Analysis and Security Management	3	0	3
<b>Semester 2</b>				
PST 205	Transportation Security	3	0	3
Total Credits:		9	0	9

## Public Safety Telecommunicator Certificate (PSTC)

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
PST 140	Public Safety Telecommunicator	3	0	3
<b>Semester 2</b>				
PST 145	Emergency Medical Dispatcher	2	0	2
Total Credits:		5	0	5

## Courses

### PST 100 Introduction to Emergency Management 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on professionalism and ethics in the safety and security career fields. Topics include: risk assessment, mitigation, and response; disaster recovery; preparedness; and communications. Prerequisites: ENG 085 or appropriate placement

### PST 110 Introduction to Homeland Security 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on key principles of emergency management and their relationship to homeland security. . Prerequisites: None

### PST 115 Introduction to Terrorist Groups 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on the history, motivation, and activities of terrorists. Topics include: how terrorist groups and individuals evolve, and how governments respond to terrorist events. Prerequisites: None

### PST 120 Intelligence Analysis and Security Management 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on key principles of physical security. Topics include: passive detection systems; assessing risk; understanding rules of evidence and testifying in court; and using tools such as link analysis, event flow diagrams, and visual intelligence analysis diagrams. Prerequisites: None

### PST 125 Public Safety Contingency Planning 3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on techniques for developing continuity of operations plans (COOP), continuity of government plans (COG), and event and community hazard plans. Prerequisites: PST 110



**PST 130 Public Safety Communication Practices****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on techniques for communication with employees, the community, and the media during a crisis event.

Prerequisites: None

**PST 135 Disaster Preparedness for Healthcare Workers****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on disaster preparedness, incident command, and risks and hazards as related to the healthcare worker.

Prerequisites: None

**PST 140 Public Safety Telecommunicator****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of the telecommunicator. Topics include: classifying and prioritizing calls, responding to calls, managing equipment and records, functioning under the Federal Communications Commission (FCC), and professional ethics.

Prerequisites: ENG 085 or appropriate placement

**PST 145 Emergency Medical Dispatcher****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the responsibilities of the emergency medical dispatcher. Topics include: assessing and prioritizing emergency calls, dispatching the appropriate response, and giving callers appropriate instructions until the responding EMS unit arrives.

Prerequisites: PST 140

**PST 150 Law Enforcement Studies: Advanced Standi****16 Credits. 16 Lecture Hours. 0 Lab Hour.**

Students may receive up to 16 semester credit hours for successful completion of the Ohio Peace Officer Basic Training or equivalent state/federal law enforcement training. Approval of training by the ATS-Law Enforcement Program Chair is required.

Prerequisites: Program Chair consent

Instructor Consent Required

**PST 200 Healthcare Security****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on healthcare security programs. Topics include: preventing accidents and injuries, fire safety, and crisis intervention.

Prerequisites: PST 120

**PST 205 Transportation Security****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on providing security for various modes of transportation and transportation facilities. Topics include: airports, railroads, ports, trucking, and pipelines.

Prerequisites: None

**PST 291 Full-Time Cooperative Education 1: Public Safety Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PST 100 (minimum grade C)

Instructor Consent Required

**PST 292 Part-Time Internship 1: Public Safety Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in a part-time unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit.

Prerequisites: PST 100 (minimum grade C)

**PST 294 Full Time Internship 1: Public Safety Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in a full-time unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PST 100 (minimum grade C)

## Respiratory Care Technology (RC)

### Respiratory Care Technology (RC)

Cincinnati State offers a comprehensive program in Respiratory Care Technology.

Students develop a wide range of clinical skills in traditional and nontraditional roles and gain proficiency in all areas of respiratory care, such as bedside pulmonary care, life-support systems management, diagnostic testing, pulmonary rehabilitation, and long-term care. Students practice these skills with a variety of health care professionals in the diagnosis, treatment, and education of the patient.

Program graduates earn an Associate of Applied Science degree and are eligible to take the National Board for Respiratory Care exam required to earn the Registered Respiratory Therapist (RRT) credential.

The Respiratory Care Technology program is accredited by The Commission on Accreditation for Respiratory Care (CoARC), 1248 Harwood Road, Bedford, Texas, 76021. Phone: (817) 282-2835. Website: [www.coarc.com](http://www.coarc.com) (<http://www.coarc.com>). Program #: 200260

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

### Respiratory Care Technology (RC)

Prior to applying for selective enrollment into the Respiratory Care program, applicants must meet these requirements: completed high school or college biology, chemistry and physics within the last 6 years with a C or better; 2.75 overall GPA for at least 12 credit hours earned from the most recent qualifying institution; and eligible to take MAT 131 and ENG 101.

Semester 1		Lec	Lab	Credits
FYE 1XX		1	0	1
First Year Experience Elective (B)				
BIO 151	Anatomy and Physiology 1 ( G)	3	2	4
ENG 101	English Composition 1 ( G)	3	0	3
RT 100	Introduction to Respiratory Care ( B)	1	0	1
RT 101	Respiratory Care Science 1 ( T)	3	2	4
RT 172	Cardiopulmonary Anatomy and Physiology ( B)	3	2	4

**Semester 2**

RT 102	Respiratory Care Science 2 ( <b>T</b> )	3	2	4
BIO 152	Anatomy and Physiology 2 ( <b>B</b> )	3	2	4
BIO 220	Microbiology ( <b>B</b> )	2	3	3
RT 173	Cardiopulmonary Disease ( <b>T</b> )	3	2	4
RT 111	Respiratory Care Clinical Practice 1 ( <b>T</b> )	1	8	2
<b>Semester 3</b>				
RT 112	Respiratory Care Clinical Practice 2 ( <b>T</b> )	1	16	2
RT 103	Mechanical Ventilation ( <b>T</b> )	3	2	4
MAT 131	Statistics 1 ( <b>G</b> )	2	2	3
ENG 102	English Composition 2: Contemporary Issues ( <b>G</b> )	3	0	3
<b>Semester 4</b>				
BIO 240	Pathophysiology ( <b>B</b> )	3	0	3
RT 211	Respiratory Clinical Practice 3 ( <b>T</b> )	1	16	2
RT 201	Advanced Respiratory Critical Care ( <b>T</b> )	3	0	3
RT 202	Specialties in Respiratory Care ( <b>T</b> )	2	0	2
<b>Semester 5</b>				
RT 203	Respiratory Care Seminar ( <b>T</b> )	1	2	2
RT 204	Respiratory Care Capstone ( <b>T</b> )	0	2	1
RT 212	Respiratory Clinical Practice 4 ( <b>T</b> )	1	16	2
PSY 110	Introduction to Psychology ( <b>G</b> )	3	0	3
Total Credits:		49	79	64

## Electives

<b>First Year Experience Elective</b>		<b>1</b>
FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

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## Respiratory Care Technology (RC)

- Evaluate data in the patient record
- Gather clinical information

- Perform procedures to gather clinical information
- Evaluate procedure results
- Recommend diagnostic procedures
- Assemble and troubleshoot equipment
- Ensure infection control
- Perform quality control procedures
- Maintain a patent airway
- Perform airway clearance and lung expansion therapies
- Support oxygenation and ventilation
- Administer medications and specialty gases
- Ensure modifications are made to the respiratory care plan
- Utilize evidence-based medicine principles
- Perform respiratory care in high-risk situations
- Assist a physician in performing procedures
- Initiate and conduct patient/family education

## Faculty

### Program Chair and Director of Clinical Education

Michael Chaney, MEd, RRT  
michael.chaney2@cincinnatiastate.edu

### Medical Director

Dr. Christopher Schmitt, MD

### Advisor

Debra Lierl, M.Ed., RRT  
debra.lierl@cincinnatiastate.edu

### Other Full-time Faculty

Julie Klensch, BS, RRT  
julie.klensch@cincinnatiastate.edu

### Interim Director of Clinical Education

Mike Mullarkey, BAS

## Courses

### RT 100 Introduction to Respiratory Care 1 Credit. 1 Lecture Hour. 0 Lab Hour.

A course on fundamental concepts in the field of Respiratory Care. Topics include: history of respiratory care, time management, communication, team building, diversity, patient rights and confidentiality, professional ethics, and death and dying. Prerequisites: Respiratory Care Program Chair consent Instructor Consent Required

**RT 101 Respiratory Care Science 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of pulmonary patient care. Topics include: patient assessment, moving, and positioning; oxygen therapy; humidity and aerosol therapies; hospital safety; infection control; respiratory pharmacology; and medical ethics.

Prerequisites: PHY 110 or high school physics within the past 6 years (minimum grade C), and Respiratory Care Technology Program Chair consent

Instructor Consent Required

**RT 102 Respiratory Care Science 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of RT 101. Topics include: artificial airways, airway suctioning, cleaning and sterilizing equipment, expansion therapy, bronchial hygiene therapies, pulmonary imaging, intubation, non-invasive ventilation, newborn development, and newborn congenital diseases and conditions.

Prerequisites: RT 100 and RT 101 and RT 172 (minimum grade C for all)

**RT 103 Mechanical Ventilation****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on infant and adult mechanical ventilation. Topics include: indications, assessment, application, monitoring, weaning, and modes of mechanical ventilation.

Prerequisites: RT 102 and RT 111 and RT 173 (minimum grade C for all)

**RT 111 Respiratory Care Clinical Practice 1****2 Credits. 1 Lecture Hour. 8 Lab Hours.**

Students practice using respiratory care skills for basic floor therapy in the hospital environment. Topics include: medications administration, oxygen therapy, bronchial hygiene, expansion therapy, and humidification.

Prerequisites: RT 100 and RT 101 and RT 172 (minimum grade C for all)

**RT 112 Respiratory Care Clinical Practice 2****2 Credits. 1 Lecture Hour. 16 Lab Hours.**

A continuation of RT 111. Students practice respiratory care skills and responsibilities in a hospital setting. Topics include: critical care and mechanical ventilation, pulmonary functions, operating room observation, and hyperbaric oxygen.

Prerequisites: RT 102 and RT 111 and RT 173 (minimum grade C for all)

**RT 172 Cardiopulmonary Anatomy and Physiology****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the anatomy and physiology of the respiratory and circulatory systems. Topics include: ventilation, diffusion, O<sub>2</sub> and CO<sub>2</sub> transport, acid/base balance, circulation, ventilation/perfusion (VQ) relationships, compliance, resistance, deadspace, and basic ECG interpretation

Prerequisites: Respiratory Care Program Chair consent  
Instructor Consent Required

**RT 173 Cardiopulmonary Disease****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on cardiopulmonary diseases and the diagnosis, treatment, and prognosis of each disease. Topics include: pulmonary diseases and conditions, pulmonary function testing and interpretation, and use of testing in diagnosing pulmonary diseases.

Prerequisites: RT 100 and RT 101 and RT 172 (minimum grade C for all)

**RT 201 Advanced Respiratory Critical Care****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on caring for the critically ill respiratory care patient. Topics include: critical care assessment, medications, hemodynamic monitoring, and critical diseases and conditions.

Prerequisites: RT 103 and RT 112 (minimum grade C for both)

**RT 202 Specialties in Respiratory Care****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on specialized areas of respiratory care and emerging roles for the respiratory therapist. Topics include: bronchoscopy, tracheostomy, burn care, chest tubes, metabolic testing, exercise testing, pulmonary rehabilitation, capnography, and other specialty areas.

Prerequisites: RT 103 and RT 112 (minimum grade C for both)

**RT 203 Respiratory Care Seminar****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

Students review theory and practice in respiratory care to prepare for national certification examinations. Topics include: Advanced Cardiovascular Life Support (ACLS), starting intravenous therapy (IVs), and transitioning from student to professional.

Prerequisites: RT 201 and RT 202 and RT 211 (minimum grade C for all)

**RT 204 Respiratory Care Capstone****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

Students complete a research project in an approved specialty area in the field of respiratory care.

Prerequisites: RT 201 and RT 202 and RT 211 (minimum grade C for all)

**RT 211 Respiratory Clinical Practice 3****2 Credits. 1 Lecture Hour. 16 Lab Hours.**

A continuation of RT 112. Students practice skills and responsibilities for care of ventilator patients in the intensive care unit of a hospital.

Topics include: mechanical ventilation, respiratory equipment, home care, neonatal and pediatrics care, and pulmonary rehabilitation.  
Prerequisites: RT 103 and RT 112 (minimum grade C for both)

**RT 212 Respiratory Clinical Practice 4****2 Credits. 1 Lecture Hour. 16 Lab Hours.**

A continuation of RT 211. Students complete an internship and practice respiratory care skills and responsibilities in multiple healthcare settings. Clinical rotations include: ECG and vascular testing, burn care, extended care facilities, and critical care.

Prerequisites: RT 201 and RT 202 and RT 211 (minimum grade C for all)

# Surgical Technology and Surgical Technology First Assistant Certificate (ST & STFAC)

## Surgical Technology (ST)

The Surgical Technology associate's degree program focuses on the scrub role during general and specialty surgical procedures. The surgical technologist provides patient care before, during, and after surgery.

Responsibilities of the surgical technologist include preparing operative equipment and supplies, providing instrumentation during operative procedures, and other intra-operative patient care activities. Surgical technologists also share circulating tasks (responsibilities that may require patient interaction) with nurses.

Students develop skills through integrated theory and practice in the classroom and simulated laboratory practice, and through clinical experiences in hospital and/or ambulatory surgery operating rooms.

The Surgical Technology program is accredited by the Commission on Accreditation of Allied Health Education Programs in collaboration with the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA), 6 West Dry Creek Circle, Suite 110, Littleton, CO, 80120-8031. Websites: [www.caahep.org](http://www.caahep.org) (<http://www.caahep.org>) | [www.arcstsa.org](http://www.arcstsa.org) (<http://www.arcstsa.org>).

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Surgical Technology First Assistant Certificate (STFAC)

First assistants and surgical assistants provide aid to help surgeons conduct a safe operation with optimal results for the patient. In addition to intra-operative duties, surgical assistants perform pre-operative and post-operative duties to facilitate proper patient care.

The Surgical Technology First Assistant certificate encompasses the basic elements of first assisting. Most of the courses are delivered online. However, some courses include simulated laboratory experiences on campus.

To be admitted to the certificate program, students must have a minimum of an associate's degree from a regionally accredited college or university, with completion of basic college-level science courses within the past seven years. In addition, prospective students must be certified as a Surgical Technologist (CST); must have three years full-time scrub and/or assisting experience within the last seven years; and must provide proof of current CPR Certification for Healthcare Providers, liability insurance, and updated immunizations.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Surgical Technology (ST)

**Program prerequisites:** Students seeking admission to the Surgical Technology program must complete specific requirements. After completing Semester 1 of Year 1, students should apply for selective enrollment into the Surgical Technology program. Year 2 courses will begin in Fall Semester. Students should meet with their academic advisor to discuss eligibility and deadlines for selective enrollment.

### First Year

Semester 1		Lec	Lat	Credits
BIO 151	Anatomy and Physiology 1 ( <b>B</b> )	3	2	4
MAT 105	Quantitative Reasoning ( <b>G</b> )	2	2	3
ST 100	Introduction to Surgical Technology ( <b>T</b> )	1	0	1
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1

After completing Year 1, Semester 1 courses, apply for Selective Enrollment into the ST program.

### Second Year

Semester 1		Lec	Lat	Credits
BIO 152	Anatomy and Physiology 2 ( <b>B</b> )	3	2	4
BIO 220	Microbiology ( <b>G</b> )	2	3	3
ST 101	Surgical Foundations and Procedures 1 ( <b>T</b> )	6	0	6
ST 111	Surgical Principles and Practice 1 ( <b>B</b> )	1	3	2

### Semester 2

PST 135	Disaster Preparedness for Healthcare Workers ( <b>B</b> )	2	0	2
ST 102	Surgical Foundations and Procedures 2 ( <b>T</b> )	6	0	6
ST 112	Surgical Principles and Practice 2 ( <b>B</b> )	1	3	2
ST 181	Surgical Technology Clinical Skills Application 1 ( <b>T</b> )	1	3	2

### Semester 3

COMM 105	Interpersonal Communication ( <b>G</b> )	3	0	3
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
ST 201	Advanced Surgical Procedures 1 ( <b>T</b> )	4	0	4
ST 182	Surgical Technology Clinical Skills Application 2 ( <b>T</b> )	0	6	2

### Third Year

Semester 1		Lec	Lat	Credits
ENG 105	English Composition 2: Business Communication ( <b>G</b> )	3	0	3
ST 202	Advanced Surgical Procedures 2 ( <b>T</b> )	4	0	4

ST 281	Surgical Technology Clinical Directed Practice 1 ( T )	1	24	5
<b>Semester 2</b>				
ST 282	Surgical Technology Clinical Directed Practice 2 ( T )	1	24	5
Total Credits:		48	72	65

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Surgical Technology First Assistant Certificate (STFA)

**Program Prerequisites:** Associate's degree from a regionally accredited college or university; certified as a Surgical Technologist, with three years full-time scrub and/or assisting experience within the last five years; CPR/BLS certified; and courses BIO 220 Microbiology, BIO 240 Pathophysiology, IM 100 Computer Literacy, and MCH 101 Medical Terminology 1.

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
PST 135	Disaster Preparedness for Healthcare Workers	2	0	2
STFA 150	Perioperative Bioscience	3	0	3
STFA 155	Principles of First Assisting	2	3	3
<b>Semester 2</b>				
STFA 161	Surgical Specialties 1	7	0	7
STFA 181	First Assisting Clinical 1	1	12	2
<b>Semester 3</b>				
STFA 162	Surgical Specialties 2	7	0	7
STFA 182	First Assisting Clinical 2	1	12	2
Total Credits:		23	27	26

## Surgical Technology (ST)

- Demonstrate basic skills and knowledge essential for the various roles of a Surgical Technologist.

- Demonstrate ethical, legal, and professional responsibilities associated with the care of the surgical patient.
- Establish and maintain a safe surgical environment by correctly applying principles of asepsis.
- Perform the scrub role for basic surgical procedures.
- Prepare to advance into more complex specialty surgical procedures by reinforcement of scrub skills.
- Demonstrate professionalism, communication, and social skills consistent with their role as Surgical Technologists.
- Graduates will be prepared for employment as a Surgical Technologist.
- Graduates will demonstrate readiness to complete the National Certification Examination and obtain the Certified Surgical Technologist (CST) designation.

## Faculty

### Program Chair

LaVon Moore, BES, AAS, CST  
lavon.moore@cincinnatiastate.edu

### Advisor

Athealia Bell, EdD  
athealia.bell@cincinnatiastate.edu

## STFA Courses

### STFA 150 Perioperative Bioscience

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts of perioperative bioscience. Topics include: advanced microbiology and pathology, surgical pharmacology, and anesthesia management.

Prerequisites: Admitted to the STFA Certificate Program  
Instructor Consent Required

### STFA 155 Principles of First Assisting

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the history and role of the first assistant. Topics include: performing perioperative functions; moral, ethical, and legal responsibilities; surgical interventions for specific patient groups; complications and surgical emergencies; and career options.

Prerequisites: Admitted to STFA Certificate Program  
Instructor Consent Required

### STFA 161 Surgical Specialties 1

**7 Credits. 7 Lecture Hours. 0 Lab Hour.**

A course on the first assistant's role in a variety of surgical procedures. Topics include: general surgery; endoscopic procedures; and gynecological, obstetrical, genitourinary, plastic/reconstructive, otorhinolaryngologic, and pediatric procedures.

Prerequisites: STFA 150, STFA 155 (minimum grade C for both)

### STFA 162 Surgical Specialties 2

**7 Credits. 7 Lecture Hours. 0 Lab Hour.**

A continuation of STFA 161. Topics include: orthopedic, ophthalmic, neurosurgical, perivascular, thoracic, cardiac, and pediatric surgical procedures.

Prerequisites: STFA 161 (minimum grade C)

**STFA 181 First Assisting Clinical 1****2 Credits. 1 Lecture Hour. 12 Lab Hours.**

Students complete an individualized clinical practicum to demonstrate manual and behavioral skills under the preceptorship of a surgeon at a facility of student's choice. Skills application includes: general surgery; and endoscopic, gynecological, obstetrical, genitourinary, plastic/reconstructive, otorhinolaryngologic, and pediatric procedures.

Prerequisites: STFA 150, STFA 155 (minimum grade C for both)

**STFA 182 First Assisting Clinical 2****2 Credits. 1 Lecture Hour. 12 Lab Hours.**

A continuation of STFA 181. Students must complete the required number of procedures, under the supervised preceptorship of a surgeon, in any combination of the following surgical specialties: pediatric, orthopedic, ophthalmic, neurosurgical, perivascular, thoracic, and cardiac surgical procedures.

Prerequisites: STFA 181

**ST Courses****ST 100 Introduction to Surgical Technology****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on the history and development of surgical technology. Topics include: the perioperative environment, surgical instrumentation, the surgical technologist's role and attributes for success, professional organizations, and legal terms related to the profession.

Prerequisites: None

**ST 101 Surgical Foundations and Procedures 1****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A course on concepts and skills for surgical technology. Topics include: professional and workplace management; medical terminology; informatics; patient care; surgical asepsis and infection control; decontamination, disinfection, and reprocessing methods; instrumentation; sterile storage and distribution; basic pharmacology; anesthesia; specimen care; and surgical supplies and equipment.

Prerequisites: Admitted to the ST program through the selective enrollment process, and ST 100 and BIO 151 and MAT 105, and one FYE course (minimum grade C for all), and instructor consent  
Instructor Consent Required

**ST 102 Surgical Foundations and Procedures 2****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A continuation of ST 101. Topics include: wound classifications; wound healing; tissue approximation; sutures; abdominal incisions; and procedural steps for abdominal wall hernia repairs, and gastrointestinal and accessory organs, breast, gynecological, obstetrical, and plastic/reconstructive surgery.

Prerequisites: BIO 152 and BIO 220 and ST 101 (minimum grade C for all), and ST 111

**ST 111 Surgical Principles and Practice 1****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course that prepares students to perform assistant circulating skills through activities conducted in a simulated operating room setting on campus.

Prerequisites: Admitted to the ST program through the selective enrollment process, and ST 100 (minimum grade of C), and instructor consent

Instructor Consent Required

**ST 112 Surgical Principles and Practice 2****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course that prepares students to perform first scrub role skills through activities conducted in a simulated operating room setting on campus.

Prerequisites: ST 101 (minimum grade C), and ST 111

**ST 181 Surgical Technology Clinical Skills Application 1****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

Students participate in uncompensated clinical experiences performing beginning-level assistant circulating skills in the operating room of an affiliate hospital, and attend a weekly seminar.

Prerequisites: ST 101 (minimum grade C), and ST 111

**ST 182 Surgical Technology Clinical Skills Application 2****2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A continuation of ST 181. Students perform uncompensated beginning-level scrub skills during assigned operative procedures at an affiliate hospital. Students' skills are evaluated in relation to future employment.

Prerequisites: ST 102 (minimum grade C), and ST 112 and ST 181

**ST 201 Advanced Surgical Procedures 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on specialized surgical procedures. Topics include: otorhinolaryngology procedures including head/neck and oral maxillary surgery; and ophthalmic, genitourinary, and orthopedic surgery.

Prerequisites: ST 102 (minimum grade C), and ST 112 and ST 181

**ST 202 Advanced Surgical Procedures 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of ST 201. Topics include: perivascular, thoracic, cardiac, neurology, and transplant surgery, and pediatric procedures.

Prerequisites: ST 201 (minimum grade C), and ST 182

**ST 281 Surgical Technology Clinical Directed Practice 1****5 Credits. 1 Lecture Hour. 24 Lab Hours.**

Students demonstrate competency in scrub skills related to general and specialty operative procedures at an assigned affiliate hospital, and attend a weekly seminar on campus.

Prerequisites: ST 201 (minimum grade C), and ST 182

**ST 282 Surgical Technology Clinical Directed Practice 2****5 Credits. 1 Lecture Hour. 24 Lab Hours.**

A continuation of ST 281. Students demonstrate competency in scrub skills while performing assigned procedures at an affiliate hospital, and attend a weekly seminar on campus. Students must complete the National Board of Surgical Technology and Surgical Assisting (NBSTSA) certification examination as a course requirement.

Prerequisites: ST 202 (minimum grade C), and ST 281

**Humanities and Sciences Division**

**Division Office:** Main Building Room 232, Clifton Campus

**Division Phone Number:** (513) 569-1700

The mission of the Humanities and Sciences Division is to provide general education for students in all Cincinnati State degrees and certificates. The Division also offers college transfer associate's degrees and career-technical associate's degrees and certificates in education and helping professions.

The Humanities and Sciences Division supports student success with creative, student-focused instruction; robust individualized support; and

extracurricular opportunities. The Division promotes career success and lifelong learning through experiential learning, collaborative experience, and focus on civic engagement.

The Humanities and Sciences Division offers two associate's degrees for students who plan to continue in a bachelor's degree program immediately after graduating from Cincinnati State:

- Associate of Arts (p. 314)
- Associate of Science (p. 316)

The Division also offers three Associate of Applied Science degrees that prepare students for immediate employment:

- American Sign Language Interpreter Training (p. 323)
- Early Childhood Education (p. 318)
- Human and Social Services (p. 321)

The Division offers an Associate of Technical Studies degree for individuals currently working in law enforcement who want to advance in their field:

- Law Enforcement (p. 327)

The Division also offers several certificate programs:

- Addiction Studies (p. 312)
- Addiction Studies Licensing Preparation (p. 313)
- Deaf Studies (p. 323)
- Intellectual and Developmental Disabilities (p. 322)
- Leadership (p. 329)
- Ohio Transfer Module Certificate (p. 331)

## College Orientation

To prepare for success in college, degree-seeking students are required to complete a college First Year Experience (FYE) course within the first 12 credit hours taken at Cincinnati State.

## Entrance Competencies in Communications and Mathematics

To ensure success in academic studies in Humanities and Sciences, entering students must meet established academic levels in mathematics, written communication skills, and reading comprehension. As part of the admission process, entering students meet with an academic advisor who may identify academic foundations-level classes to help the student reach needed levels. Preparatory classes are available year-round, and are designed to increase students' opportunities for success in their courses.

## Cooperative Education

The Humanities and Sciences Division shares the College's commitment to cooperative education as an integral part of the curriculum. Cooperative education allows students to apply concepts learned in the classroom through practical, hands-on experience in full-time or part-time work environments. These work experiences may include paid cooperative education or unpaid internships. In some cases, degree-seeking students with prior work experience related to their post-baccalaureate career goals may be eligible to receive credit through the standard College procedures for granting advanced

standing credit. The program chair and cooperative education coordinator must approve all substitutions in advance.

Students must schedule a meeting with the cooperative education coordinator at least one semester prior to the anticipated start of their co-op activities to discuss options and plan how to complete co-op credits.

For eligibility requirements, co-op registration policies, and other issues related to cooperative education, please refer to the [Cooperative Education \(p. 373\)](#) section of this Catalog.

## Tutoring Center, Writing Center, and Math Center

The **Writing Center** in Room 235 Main Building (Clifton Campus) offers instructional support at no charge to any Cincinnati State student whose coursework includes written assignments. Staff members are qualified, experienced writing instructors who provide guidance to students in all facets of the writing process. Writing Center assistance is available by appointment and on a walk-in basis.

Cincinnati State provides tutoring services at no charge to any student enrolled at the College, as well as focused support for classes that involve math and writing.

The **Tutoring Center** in Room 261 Main Building (Clifton Campus) and the **Math Center** in Room 228B Main Building (Clifton Campus) serve as resources to support, improve, and enhance student learning. In addition to faculty and staff volunteers and paid staff, student tutors provide peer-to-peer support. Student tutors have received an A or B in their coursework and must be recommended by Cincinnati State faculty members. Student tutors are trained to provide effective support.

Tutoring can be provided for most courses when students request assistance. Tutors can share ideas, interpret and clarify terms, answer questions, and guide students' efforts. However, tutors will not do the tutored student's homework. The student receiving tutoring must attend class regularly, read the textbook, be prepared for tutoring sessions, have relevant questions, and complete all homework assignments. These efforts will facilitate academic success.

## Transfer Module

The Ohio Department of Higher Education developed the Ohio Transfer Module to facilitate transfer of credits from one Ohio public college or university to another. Ohio's transfer module contains 36 to 40 semester hours of course credits in the areas of communication, mathematics, arts and humanities, social and behavioral sciences, and natural and physical sciences. A transfer module completed at one college or university automatically meets the requirements for the transfer module at another college or university once the student is admitted. For additional information, see the State of Ohio Policy for Institutional Transfer (p. 349) and the Transfer Module (p. 337) sections of this Catalog.

The Associate of Arts and Associate of Science degrees contains all of the required courses for the transfer module, and the Associate of Applied Science degrees contain many of the required courses. Students earning Associate of Applied Science degrees may schedule additional courses needed to complete the transfer module at their convenience. Students who transfer to an Ohio public university for a baccalaureate degree will find that an Associate of Arts or Associate of

Science degree, or an Associate of Applied Science degree combined with transfer module completion, leads to preferential consideration at the receiving institution.

## Addiction Studies Certificate (ADSC)

### Addiction Studies Certificate (ADSC)

The Addiction Studies Certificate program prepares individuals to work in an entry-level position in a substance abuse program. Coursework includes training in how to assist individuals and families with a variety of issues arising from addiction problems.

Students who successfully complete the certificate are eligible to seek credentialing as an Ohio Chemical Dependency Counselor Assistant. Students who complete an associate's degree along with the certificate may seek credentialing as a Licensed Chemical Dependency Counselor II. Successful credentialing includes passing a computer-based exam administered by the Ohio Chemical Dependency Professionals Board.

Students seeking the Addiction Studies Certificate may also be interested in pursuing an Associate of Arts degree with a focus in Social Work, Criminal Justice, or Psychology.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Addiction Studies Certificate (ADSC)

Semester 1		Lec	Lat	Credits
ADC 100	Drugs in Society	3	0	3
ENG 101	English Composition 1	3	0	3
PSY 110	Introduction to Psychology	3	0	3
ADC 105	Addiction, Counseling, and Diversity	3	0	3
Semester 2				
ADC 110	Pharmacology of Addiction	3	0	3
ADC 115	Ethics in Addiction Treatment	3	0	3
ADC 120	Addiction Screening, Assessment, and Treatment	3	0	3
ADC 125	Relapse, Treatment, and Prevention	3	0	3
Semester 3				
ADC 200	Dual Diagnosis: Substance Abuse and Mental Illness	4	0	4
XXX XXX	Technical Elective	3	0	3
Total Credits:		31	0	31

#### Technical Elective (choose one course)

HSV 210	Treatment Planning and Documentation	3
HSV 215	Group Work in Human Services	4

PSY 200	Abnormal Psychology	3
PSY 205	Child Development	3
PSY 210	Adolescent Development	3
PSY 215	Adult Development	3
PSY 220	Social Psychology	3
PSY 225	Lifespan Development	3
SWK 110	Introduction to Social Work	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Program Chair/Advisor

Marianne Niese, MEd, LPCC-S  
marianne.niese@cincinnati.edu

## Courses

### ADC 100 Drugs in Society

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the use and abuse of drugs and alcohol. Topics include: causes of drug abuse; and drug abuse prevention, early intervention, and treatment programs.

Prerequisites: None

### ADC 105 Addiction, Counseling, and Diversity

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A survey of addiction studies topics, emphasizing the importance of cultural competency in substance abuse counseling.

Prerequisites: ENG 085 or appropriate placement

### ADC 110 Pharmacology of Addiction

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on psychological and physiological effects of mood-altering substances. Topics include: physical and psychological characteristics of addiction; drug tolerance, dependency, and withdrawal; cross addictions; and drug interactions.

Prerequisites: ENG 085 or appropriate placement, and ADC 100 and ADC 105, or 15 RCHs and Program Chair consent

### ADC 115 Ethics in Addiction Treatment

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on ethical and legal issues in the field of substance abuse counseling. Topics include: the counselor as a professional, values and helping relationships, client rights and counselor responsibilities, and ethics and cultural sensitivity.

Prerequisites: ENG 085 or appropriate placement, and ADC 100 and ADC 105, or 15 RCHs and Program Chair consent

### ADC 120 Addiction Screening, Assessment, and Treatment

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on systematic approaches to addiction counseling. Topics include: making appropriate referrals, using community resources, collaborating in the counselor/client relationship, and planning and implementing treatment.

Prerequisites: ADC 100 and ADC 105



**ADC 125 Relapse, Treatment, and Prevention****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on factors that influence relapse in drug and alcohol abuse, and best practices for preventing and treating relapse.

Prerequisites: ENG 085 or appropriate placement, and ADC 100 and ADC 105, or 15 RCHs and Program Chair consent

**ADC 200 Dual Diagnosis: Substance Abuse and Mental Illness****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on co-occurring psychiatric and substance abuse disorders and their impact on the individual, family, and community. Topics include: differential diagnosis of chemical dependency and mental disorders; assessment strategies; intervention approaches; and working with clients with dual disorders, including addicted trauma survivors.

Prerequisites: ADC 120

**ADC 205 Addiction Studies Practicum****2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students spend at least seven hours per week in a substance abuse/addiction facility that serves culturally, linguistically, and socio-economically diverse populations, under the supervision of a Licensed Certified Chemical Dependency Counselor, Licensed Independent Social Worker or other professional with a Master of Social Work degree.

Prerequisites: ADC 115, ADC 120, ADC 125

## Addiction Studies Licensing Preparation Certificate (ADSLC)

### Addiction Studies Licensing Preparation Certificate (ADSLC)

The Addiction Studies Licensing Preparation Certificate is for individuals who have completed a college degree and want to qualify for employment as an addiction/substance abuse counselor.

After completing the certificate, students can apply for credentialing in Ohio as a Licensed Chemical Dependency Counselor II (associate's degree), a Licensed Chemical Dependency Counselor III (bachelor's degree), or a Licensed Independent Chemical Dependency Counselor (master's degree). Successful credentialing includes passing a computer-based exam administered by the Ohio Chemical Dependency Professionals Board.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Addiction Studies Licensing Preparation Certificate (ADSLC)

Program Prerequisite: An associate's, bachelor's, or master's degree in a behavioral science field, from an accredited institution of higher education, is required to enroll in this program.

Semester 1		Lec	Lat	Credits
ADC 100	Drugs in Society	3	0	3
ADC 105	Addiction, Counseling, and Diversity	3	0	3
Semester 2				
ADC 115	Ethics in Addiction Treatment	3	0	3
ADC 120	Addiction Screening, Assessment, and Treatment	3	0	3
ADC 110	Pharmacology of Addiction	3	0	3
Semester 3				
ADC 125	Relapse, Treatment, and Prevention	3	0	3
ADC 200	Dual Diagnosis: Substance Abuse and Mental Illness	4	0	4
Total Credits:		22	0	22

## Faculty

### Program Chair/Advisor

Marianne Niese, MEd, LPCC-S  
marianne.niese@cincinnati.edu

## Courses

**ADC 100 Drugs in Society****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the use and abuse of drugs and alcohol. Topics include: causes of drug abuse; and drug abuse prevention, early intervention, and treatment programs.

Prerequisites: None

**ADC 105 Addiction, Counseling, and Diversity****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A survey of addiction studies topics, emphasizing the importance of cultural competency in substance abuse counseling.

Prerequisites: ENG 085 or appropriate placement

**ADC 110 Pharmacology of Addiction****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on psychological and physiological effects of mood-altering substances. Topics include: physical and psychological characteristics of addiction; drug tolerance, dependency, and withdrawal; cross addictions; and drug interactions.

Prerequisites: ENG 085 or appropriate placement, and ADC 100 and ADC 105, or 15 RCHs and Program Chair consent

**ADC 115 Ethics in Addiction Treatment****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on ethical and legal issues in the field of substance abuse counseling. Topics include: the counselor as a professional, values and helping relationships, client rights and counselor responsibilities, and ethics and cultural sensitivity.

Prerequisites: ENG 085 or appropriate placement, and ADC 100 and ADC 105, or 15 RCHs and Program Chair consent

**ADC 120 Addiction Screening, Assessment, and Treatment****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on systematic approaches to addiction counseling. Topics include: making appropriate referrals, using community resources, collaborating in the counselor/client relationship, and planning and implementing treatment.

Prerequisites: ADC 100 and ADC 105

**ADC 125 Relapse, Treatment, and Prevention**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on factors that influence relapse in drug and alcohol abuse, and best practices for preventing and treating relapse.

Prerequisites: ENG 085 or appropriate placement, and ADC 100 and ADC 105, or 15 RCHs and Program Chair consent

**ADC 200 Dual Diagnosis: Substance Abuse and Mental Illness**

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on co-occurring psychiatric and substance abuse disorders and their impact on the individual, family, and community. Topics include: differential diagnosis of chemical dependency and mental disorders; assessment strategies; intervention approaches; and working with clients with dual disorders, including addicted trauma survivors.

Prerequisites: ADC 120

**ADC 205 Addiction Studies Practicum**

**2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students spend at least seven hours per week in a substance abuse/addiction facility that serves culturally, linguistically, and socio-economically diverse populations, under the supervision of a Licensed Certified Chemical Dependency Counselor, Licensed Independent Social Worker or other professional with a Master of Social Work degree.

Prerequisites: ADC 115, ADC 120, ADC 125

## Associate of Arts (AARTS)

### Associate of Arts (AARTS)

The Associate of Arts degree is designed for students who plan to transfer into a bachelor's degree program immediately after completing their Cincinnati State degree.

Working closely with an academic advisor, students customize the curriculum to fit the school and the bachelor's degree program they plan to complete. Students can prepare for bachelor's degree majors in Psychology, Social Work, Criminal Justice, Communications, English, History, Organizational Leadership, Middle and Secondary Education, and other areas of study.

The Associate of Arts degree includes the Ohio Transfer Module, which is a core set of general education courses, along with directed electives that allow students to complete the first two years of a four-year degree in a liberal arts field.

Students in the Associate of Arts program participate in cooperative education, which offers opportunities for internship or employment in a career-related field. The co-op or internship placement provides practical training and enriches the academic experience.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Associate of Arts (AARTS)

**First Year**

**Semester 1**

		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
FYE 1XX		1	0	1
First Year Experience				
Elective				
ENG 101	English Composition 1	3	0	3
MAT 1XX		3	0	3
Transfer Module				
Mathematics				
Elective				
XXX XXX		3	0	3
Transfer Module				
Arts/Humanities				
List A				
Elective				
XXX XXX		3	0	3
Directed Elective 1				
<b>Semester 2</b>				
ENG 10X		3	0	3
English Composition				
Elective				
HUM 190	Career Exploration Seminar: Associate of Arts / Associate of Science	2	0	2
XXX XXX		3	0	3
Transfer Module				
Social/Behavioral				
List A				
Elective				
XXX XXX		3	0	3
Directed Elective 2				
XXX XXX		3	0	3
Directed Elective 3				
<b>Semester 3</b>				
COMM 110	Public Speaking	3	0	3
XXX XXX		3	0	3
Transfer Module				
Social/Behavioral				
Sciences List				
B Elective				
XXX XXX		3	0	3
Transfer Module				
Arts/Humanities				
List B				
Elective				

HUM XXX Co-op/ Internship Elective 1	1	20	1
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**Second Year****Semester 4**

XXX XXX Transfer Module Natural/ Physical Science Elective 1	2	2	3
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XXX XXX Transfer Module Elective 1	3	0	3
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XXX XXX Directed Elective 4	3	0	3
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XXX XXX Directed Elective 5	3	0	3
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HUM XXX Co-op/ Internship Elective 2	1	20	1
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**Semester 5**

XXX XXX Transfer Module Elective 2	3	0	3
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XXX XXX Transfer Module Natural/ Physical Science Elective 2	2	2	3
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XXX XXX Directed Elective 6	3	0	3
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XXX XXX Directed Elective 7	3	0	3
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Total Credits:	60	44	62
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**Electives**

Students should consult with their advisor when choosing any electives to ensure maximum transferability of credits. Courses not listed here may be applied to the degree requirements only with the permission of an advisor.

Co-op/Internship Electives **must** be chosen in consultation with a Co-op Coordinator. Students should meet with their Co-op Coordinator one semester prior to the planned Co-op/Internship semester to choose the appropriate route.

**First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**English Composition Electives**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

**Transfer Module Mathematics Electives**

Any Transfer Module Approved course from MAT

**Transfer Module Social/Behavioral Sciences List A Electives <sup>1</sup>**

Any Transfer Module Approved Course from GEO, HST, LBR, POL

**Transfer Module Social/Behavioral Sciences List B Electives <sup>1</sup>**

Any Transfer Module Approved Course from ECO, PSY, SOC

**Transfer Module Arts/Humanities List A Electives <sup>1</sup>**

Any Transfer Module Approved Course from ART, MUS, THE, or COMM 130

**Transfer Module Arts/Humanities List B Electives <sup>1</sup>**

Any Transfer Module Approved Course from LIT, PHI, REL

**Transfer Module Natural/Physical Sciences Electives <sup>1</sup>**

Any Transfer Module Approved Course from BIO, CHE, EVS, PHY, PSC

**Directed Electives**

Any course from ADC, ART, BIO, CHE, COMM, CRJ, CULT, EDU, ENG, FRN, ASL, ITP, LDR, MAT, PHY, PSY, REL, SOC, SPN, SWK, THE

**Co-Op/Internship Electives**

HUM 191	Part-Time Cooperative Education 1: Associate of Arts and Sciences	1
HUM 192	Part-Time Cooperative Education 2: Associate of Arts and Sciences	1
HUM 194	Part-Time Career Education Project 1: Associate of Arts and Sciences	1
HUM 195	Part-Time Career Education Project 2: Associate of Arts and Sciences	1
HUM 291	Full-Time Cooperative Education 1: Associate of Arts and Sciences	2
HUM 292	Full-Time Cooperative Education 2: Assoc	2
HUM 294	Internship: Associate of Arts and Sciences	2
HUM 296	Full-Time Career Education Project: Associate of Arts and Sciences	2

<sup>1</sup> For a complete list of Transfer Module Approved courses, please see the Ohio Transfer Module page in this catalog.

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

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- The alternative version, when available, meets the requirements of the course version without the added letter.

## Associate of Arts (AARTS)

- Communicate effectively
- Evaluate arguments in a logical fashion
- Employ the methods of inquiry characteristic of natural sciences, social sciences, and the arts and humanities
- Acquire an understanding of our global and diverse culture and society
- Engage in our democratic society
- Understand and experience a professional setting aligned with the specific major of study for transfer
- Understand fundamental principles related to the specific major of study for transfer

## Faculty

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## Associate of Science (ASCI)

### Associate of Science (ASCI)

The Associate of Science degree is designed for students who plan to transfer into a bachelor's degree program immediately after completing their Cincinnati State degree.

Working closely with an academic advisor, students customize the curriculum to fit the school and the bachelor's degree program they plan to complete. Students can prepare for bachelor's degree programs in Biology, Chemistry, Physics, Mathematics, and Pre-Professional Sciences, such as Pre-Medicine, Pre-Pharmacy, Pre-Dentistry, and Pre-Veterinary Medicine.

The Associate of Science degree includes the Ohio Transfer Module, which is a core set of general education courses, along with directed electives that allow students to complete the first two years of a four-year degree in a natural sciences or physical sciences field.

Students in the Associate of Science program participate in cooperative education, which offers opportunities for internship or employment in a career-related field. The co-op or internship placement provides practical training and enriches the academic experience.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnatiastate.edu/academics/admission/>) section of the College website.

## Associate of Science (ASCI)

First Year		Lec	Lat	Credits
<b>Semester 1</b>				
FYE 1XX		1	0	1
First Year Experience Elective				
ENG 101	English Composition 1	3	0	3
MAT XXX		3	0	3
Transfer Module Mathematics Elective				
XXX XXX		3	3	4
Transfer Module Natural/Physical Science List A Elective 1				
XXX XXX		3	0	3
Transfer Module Arts/Humanities List A Elective				
<b>Semester 2</b>				
ENG 10X		3	0	3
English Composition Elective				
XXX XXX		3	3	4
Transfer Module Natural/Physical Science List A Elective 2				
XXX XXX		3	0	3
Directed Elective 1				
HUM 190	Career Exploration Seminar: Associate of Arts / Associate of Science	2	0	2
<b>Semester 3</b>				
COMM 110	Public Speaking	3	0	3

XXX XXX Transfer Module Social/ Behavioral Science List A Elective	3	0	3
XXX XXX Directed Elective 2	3	0	3
XXX XXX Directed Elective 3	3	0	3

**Second Year****Semester 4**

XXX XXX Transfer Module Math/ Science Elective 1	2	2	3
HUM XXX Co-op/ Internship Elective 1	1	20	1
XXX XXX Transfer Module Arts/ Humanities List B Elective	3	0	3
XXX XXX Directed Elective 4	3	0	3
XXX XXX Directed Elective 5	3	0	3

**Semester 5**

HUM XXX Co-op/ Internship Elective 2	1	20	1
XXX XXX Transfer Module Social/ Behavioral Science List B Elective	3	0	3
XXX XXX Transfer Module Math/ Science Elective 2	2	2	3
XXX XXX Directed Elective 6	3	0	3

XXX XXX Directed Elective 7	3	0	3
Total Credits:	60	50	64

**Electives**

Students should consult with their advisor when choosing electives to ensure maximum transferability of credits. Courses not listed here may be applied to the degree requirements only with the permission of an advisor.

Co-op/Internship Electives **must** be chosen in consultation with a Co-op Coordinator. Students should meet with their Co-op Coordinator one semester prior to the planned Co-op/Internship semester to choose the appropriate route.

**First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**English Composition Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

**Transfer Module Mathematics Elective**

MAT 151	College Algebra	4
MAT 152	Trigonometry	4
MAT 153	Pre-Calculus	6
MAT 251	Calculus 1	5
MAT 215	Business Calculus	6

**Transfer Module Natural/Physical Sciences List A Elective (take one sequence)**

BIO 131 & BIO 132	Biology 1 and Biology 2	10
CHE 121 & CHE 131 & CHE 122 & CHE 132	General Chemistry 1 and General Chemistry 1 Lab and General Chemistry 2 and General Chemistry 2 Lab	10
PHY 151 & PHY 152	Physics 1: Algebra and Trigonometry-Based and Physics 2: Algebra and Trigonometry-Based	8
PHY 201 & PHY 202	Physics 1: Calculus-Based and Physics 2: Calculus-Based	10

**Transfer Module Math/Science Elective <sup>1</sup>**

Any Transfer Module Approved Course from MAT, BIO, CHE, PHY, EVS, PSC

**Transfer Module Social/Behavioral Sciences List A Elective <sup>1</sup>**

Any Transfer Module Approved course from GEO, HST, LBR, POL

**Transfer Module Social/Behavioral Sciences List B Elective <sup>1</sup>**

Any Transfer Module Approved Course from ECO, PSY, SOC

**Transfer Module Arts/Humanities List A Elective <sup>1</sup>**

Any Transfer Module Approved Course from ART, MUS, THE, or COMM 130

**Transfer Module Arts/Humanities List B Elective <sup>1</sup>**

Any Transfer Module Approved Course from LIT, PHI, REL

**Directed Electives**

Any course from BIO, CHE, PHY, PSC, EVS, MAT, ADC, ASL, COMM, CRJ, CULT, EDU, FRN, SPN, LDR, or Any OTM course from ART, MUS, THE, PSY, SOC, ECO, HST, GEO, POL, LIT

**Co-Op/Internship Elective**

HUM 191	Part-Time Cooperative Education 1: Associate of Arts and Sciences	1
HUM 192	Part-Time Cooperative Education 2: Associate of Arts and Sciences	1
HUM 291	Full-Time Cooperative Education 1: Associate of Arts and Sciences	2
HUM 294	Internship: Associate of Arts and Sciences	2
HUM 296	Full-Time Career Education Project: Associate of Arts and Sciences	2

<sup>1</sup> For a complete list of Transfer Module Approved courses, please see the Ohio Transfer Module page in this catalog.

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**Associate of Science (ASCI)**

- Communicate effectively
- Evaluate arguments in a logical fashion
- Employ the methods of inquiry characteristic of natural sciences, social sciences, and the arts and humanities
- Acquire an understanding of our global and diverse culture and society
- Engage in our democratic society
- Understand and experience a professional setting aligned with the specific major of study for transfer
- Understand fundamental principles related to the specific major of study for transfer

**Faculty****Program Chair**

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**Early Childhood Education (ECE)****Early Childhood Education (ECE)**

The Early Childhood Education program at Cincinnati State prepares graduates for employment in a variety of early childhood settings. Students who complete the program earn an Associate of Applied Science degree, and are eligible to apply for the Pre-Kindergarten Associate Teacher License offered by the Ohio Department of Education.

The William L. Mallory Early Learning Center on the Cincinnati State Clifton Campus provides outstanding childcare and also serves as a learning lab for students earning the Early Childhood Education degree.

Graduates of the Early Childhood Education program are prepared to move directly into related employment opportunities or to transfer to a bachelor's degree program in a related field.

The Early Childhood Education associate's degree program is accredited by the National Association for the Education of Young Children's (NAEYC) Commission on the Accreditation of Early Childhood Education Programs.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnatiastate.edu/academics/admission/>) section of the College website.

**Early Childhood Education (ECE)**

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
ENG 101	English Composition 1 ( <b>G</b> )	3	0	3
FYE 1XX	First Year Experience Elective ( <b>B</b> )	1	0	1
MAT XXX	Math Elective ( <b>G</b> )	3	0	3
EDU 105	Introduction to Education ( <b>B</b> )	3	0	3
ECE 145	The Developing Child ( <b>B</b> )	3	0	3
PSY 110	Introduction to Psychology ( <b>G</b> )	3	0	3
<b>Semester 2</b>				
ECE 160	Assessment and Observation in Early Childhood Education ( <b>B</b> )	3	0	3
ECE 180	Infant and Toddler Environments ( <b>T</b> )	3	3	4
ECE 155	Health, Safety, and Nutrition in Childhood ( <b>B</b> )	3	0	3
ECE 175	Family, Community, and Schools ( <b>B</b> )	3	0	3
EDU 110	Educational Technology ( <b>T</b> )	2	2	3

**Semester 3**

ECE 185	Creative Learning Environments ( T)	4	0	4
ECE 215	Classroom Management and Guidance ( T)	3	0	3
ECE 220	Preschool and School Age Environments ( T)	3	3	4
ECE 165	Emergent Literacy ( T)	3	0	3
ENG 10X	English Composition Elective ( G)	3	0	3
<b>Semester 4</b>				
EDU 210	Learning in Childhood ( T)	3	0	3
ECE 230	Administration and Leadership in Early Childhood Education ( T)	3	0	3
ECE 290	Student Teaching in Early Childhood Education ( T)	1	14	3
EDU 200	Individuals with Exceptionalities ( T)	3	0	3
XXX XXX	Science Elective ( G)	3	2	4
Total Credits:		59	24	65

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3

### Math Elective

MAT 105	Quantitative Reasoning	3
MAT 111	Business Mathematics	3

### Science Elective

BIO 111	Biology: Unity of Life	4
EVS 110	Environmental Science: Conservation and Cleanup	4
EVS 120	Environmental Geology	4
EVS 130	Environmental Science: Ecology and Ecosystems	4
PSC 105	Astronomy	4
PSC 110	Earth Science	4

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The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio

Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Early Childhood Education (ECE)

- Promoting Child Development and Learning
  - Knowing and understanding young children's characteristics and needs, from birth through age 8.
  - Knowing and understanding the multiple influences on early development and learning.
  - Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments for young children.
- Building Family and Community Relationships
  - Knowing about and understanding diverse family and community characteristics.
  - Supporting and engaging families and communities through respectful, reciprocal relationships.
  - Involving families and communities in young children's development and learning.
- Observing, Documenting, and Assessing to Support Young Children and Families
  - Understanding the goals, benefits, and uses of assessment-- including its use in development of appropriate goals, curriculum, and teaching strategies for young children.
  - Knowing about and using observation, documentation, and other appropriate assessment tools and approaches, including the use of technology in documentation, assessment, and data collection.
  - Understanding and practicing responsible assessment to promote positive outcomes for each child, including the use of assistive technology for children with disabilities.
- Using Developmentally Effective Approaches
  - Understanding positive relationships and supportive interactions as the foundation of their work with young children.
  - Knowing and understanding effective strategies and tools for early education, including appropriate uses of technology.
  - Using a broad repertoire of developmentally appropriate teaching/learning approaches.
  - Reflecting on own practice to promote positive outcomes for each child.
- Using Content Knowledge to Build Meaningful Curriculum
  - Understanding content knowledge and resources in academic disciplines: language and literacy; the arts (music, creative movement, dance, drama, visual arts); mathematics; science (physical activity, physical education, health and safety); and social studies.
  - Knowing and using the central concepts, inquiry tools, and structures of content areas or academic disciplines.
  - Using own knowledge, appropriate early learning standards, and other resources to design, implement, and evaluate developmentally meaningful and challenging curriculum for each child.

- Becoming a Professional
  - Identifying and involving oneself with the early childhood field.
  - Knowing about and upholding ethical standards and other early childhood professional guidelines.
  - Engaging in continuous, collaborative learning to inform practice; using technology effectively with young children, with peers, and as a professional resource.
  - Integrating knowledgeable, reflective, and critical perspectives on early education.
  - Engaging in informed advocacy for young children and the early childhood profession.

## Faculty

### Program Chair/ Advisor

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### Advisors

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## Courses

### ECE 111 Child Development Associate 1

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

This course provides 60 of the 120 clock-hours of training required by the Council for Early Childhood Professionals Recognition/CDA National Credential Program. Topics include: six competency standards and 13 functional areas required for the credential program, focusing on the competency areas safe and healthy environments, physical and intellectual competence, and social and emotional development.

Prerequisites: None

### ECE 112 Child Development Associate 2

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of ECE 111 that provides 60 clock-hours of additional training. Topics include: six competency standards and 13 functional areas, focusing on relationships with families, program organization, and professionalism, as well as preparing for the competency test and portfolio review.

Prerequisites: ECE 111

### ECE 145 The Developing Child

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on growth and development of children from birth through age eight. Topics include: characteristics and needs of children for physical, cognitive, language, social, and emotional growth and development; and theories of early childhood education.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement Ohio Transfer Assurance Guide Approved

### ECE 155 Health, Safety, and Nutrition in Childhood

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for managing health, safety, and nutrition in child care settings serving infants through school age children. Topics include: childhood communicable diseases, licensing requirements, and nutritional needs of young children.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement

### ECE 160 Assessment and Observation in Early Childhood Education

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategic and purposeful techniques for observing, recording, and assessing the progress of children from infants to school age.

Prerequisites: EDU 105 and ECE 145 (minimum grade C for both)

### ECE 165 Emergent Literacy

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on growth and development of oral language from birth to school age. The course meets the Ohio Early Learning Standards for reading and writing for young children. Topics include: the study of reading and writing, the teacher's role in promoting early literacy, and phonemic awareness.

Prerequisites: EDU 105 and ECE 145 (minimum grade C for both)

### ECE 175 Family, Community, and Schools

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for parent/teacher collaboration. Topics include: effective communication among parents, teachers, and other professionals for enhancing child development; maintaining positive relationships; and working with diverse family units.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement Ohio Transfer Assurance Guide Approved

### ECE 180 Infant and Toddler Environments

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for care and nurturing of infants and toddlers. Topics include: promoting growth and development, classroom management, and developmentally appropriate practice. Students spend three hours per week in an early childhood care setting.

Prerequisites: ECE 145 and EDU 105 (minimum grade C for both)

### ECE 185 Creative Learning Environments

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on creating learning experiences for young children. Topics include: art, music, social studies, math, and science curricula; indoor and outdoor play; and selecting developmentally appropriate materials and equipment.

Prerequisites: EDU 105 and ECE 145 (minimum grade C for both)

### ECE 215 Classroom Management and Guidance

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for management of early educational classrooms, and implementation of developmentally appropriate practice and guidance for children from birth to age eight.

Prerequisites: ECE 145 and EDU 105 (minimum grade C for both)



**ECE 220 Preschool and School Age Environments****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on concepts, techniques, and educational theories for teaching preschool and school age children. Topics include: learning through play, promoting growth and development, classroom management, and developmentally-appropriate practice. Students spend three hours per week in a preschool setting.

Prerequisites: ECE 180 (minimum grade C)

**ECE 230 Administration and Leadership in Early Childhood Education****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on organizing, operating, and managing child care facilities and family child care homes. Topics include: licensing requirements, record keeping, budgeting, working with staff and parents, team building, resolving conflicts, and other leadership skills.

Prerequisites: ECE 220 (minimum grade C)

**ECE 290 Student Teaching in Early Childhood Education****3 Credits. 1 Lecture Hour. 14 Lab Hours.**

Students spend a minimum of 14 hours per week in a supervised student teaching experience in an approved early childhood care/education setting. Students must prepare a professional portfolio. Placement settings should be accredited or meet requirements for Ohio Step Up To Quality Level 3, and serve culturally, linguistically, and socio-economically diverse student populations.

Prerequisites: ECE 220 (minimum grade C) and ECE Program Chair consent

## Human and Social Services (HSS)

### Human and Social Services (HSS)

The Human and Social Services program at Cincinnati State prepares graduates for employment in a variety of human services, social services, and behavioral health settings, including mental health, chemical dependency treatment, corrections, developmental disabilities, and other areas.

Graduates of the program earn an Associate of Applied Science degree, and are eligible to register as a Social Work Assistant (SWA) through the Ohio Counseling, Social Worker, and Marriage and Family Therapist (CSWMFT) Board.

The SWA registration process requires earning grades of C or higher in all relevant coursework, including mandatory practicum experience. In addition, those seeking SWA registration must submit an official transcript, complete BCI and FBI background checks, and complete other steps outlined on the Ohio CSWMFT Board

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Human and Social Services (HSS)

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
FYE XXX - First Year Experience Elective (B)		1	0	1
ENG 101	English Composition 1 ( G)	3	0	3
SOC 105	Introduction to Sociology ( B)	3	0	3
ADC 100	Drugs in Society ( B)	3	0	3
IM 111	Computer Applications ( B)	2	3	3
<b>Semester 2</b>				
SWK 110	Introduction to Social Work ( B)	3	0	3
ENG XXX - English Composition 2 Elective (G)		3	0	3
PSY 110	Introduction to Psychology ( G)	3	0	3
HSV 110	Introduction to Human Services ( B)	3	0	3
<b>Semester 3</b>				
SWK 200	Social Welfare Policy ( T)	3	0	3
PSY 200	Abnormal Psychology ( T)	3	0	3
HSV 115	Counseling and Interviewing Techniques ( T)	3	0	3
MAT 131	Statistics 1 ( G)	2	2	3
<b>Semester 4</b>				
SWK 205	Case Management for Human Services Professionals ( T)	3	0	3
HSV 210	Treatment Planning and Documentation ( T)	3	0	3
HSV 215	Group Work in Human Services ( T)	4	0	4
HSV 291	Human Services Practicum 1 ( T)	1	10	2
<b>Semester 5</b>				
COMM 105	Interpersonal Communication ( G)	3	0	3
PSY XXX - Psychology Elective (T)		3	0	3
HSV 220	Family Theory and Services ( T)	4	0	4
HSV 292	Human Services Practicum 2 ( T)	1	10	2
<b>Total Credits:</b>		<b>57</b>	<b>25</b>	<b>61</b>

**First Year Experience Elective**

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

**English Composition 2 Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

**Psychology Elective**

PSY 220	Social Psychology	3
PSY 225	Lifespan Development	3

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- Apply evidence-based theoretical concepts and frameworks that guide the process of engagement, assessment, service planning, intervention, and evaluation.
- Demonstrate an understanding of the dynamics and patterns contributing to the development of an individual's current functioning.
- Articulate and exchange ideas using clear, concise, and open communication skills including verbal, non-verbal, and written communications in a professional manner.
- Utilize practices and techniques that encompass group facilitation, assessment, behavior change, and motivating practices working with diverse client populations.
- Demonstrate professional and ethical practice with a sensitivity to and respect for diversity.
- Analyze, synthesize, and evaluate multiple sources of information and evidence.
- Conduct oneself according to the standards within the profession including following codes of ethics and displaying the essential qualities and characteristics of professionals in this field.
- Engage in healthy practices, sufficient self-awareness, and effective self-care.

## Faculty

### Program Chair/Advisor

Marianne Niese, MEd, LPCC-S  
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## Courses

### HSV 110 Introduction to Human Services

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to the human services field. Topics include: settings where human services professionals practice; the role of the social work assistant; ethical, legal, and professional standards; and understanding how to serve a diverse population.

Prerequisites: ENG 101

### HSV 115 Counseling and Interviewing Techniques

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on components of interviewing and counseling within the helping professions. Topics include: counseling theory and techniques, and intervention strategies and skills used by human services professionals.

Prerequisites: HSV 110 or SWK 110 or PSY 110 (minimum grade C for all)

### HSV 210 Treatment Planning and Documentation

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on record keeping for the human services profession. Topics include: functional, legal, and ethical aspects of documentation; electronic record keeping; and problem statements, client assessments, goal/service plans, and progress notes.

Prerequisites: HSV 110 and HSV 115 (minimum grade C for both)

### HSV 215 Group Work in Human Services

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the history, practice, and theory of group work pertaining to human/social service settings. Topics include: types of groups, stages of the group process, role of the facilitator, participant roles and influences, and group counseling techniques.

Prerequisites: HSV 110 (minimum grade C)

### HSV 220 Family Theory and Services

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on family theories, counseling approaches, and intervention strategies. Topics include: services and resources available to families, concepts related to traditional and nontraditional families, and intergenerational patterns of behavior and family traits.

Prerequisites: HSV 110 or SWK 110 (minimum grade C for both)

### HSV 291 Human Services Practicum 1

**2 Credits. 1 Lecture Hour. 10 Lab Hours.**

Students spend at least 10 hours per week, for a total of 150 hours for the semester, at a community agency providing direct service under professional supervision. Students also participate in a weekly 1-hour seminar. Confidentiality and professionalism are emphasized.

Prerequisites: HSV 110 and HSV 115 and HSV 210 (minimum grade C for all)

### HSV 292 Human Services Practicum 2

**2 Credits. 1 Lecture Hour. 10 Lab Hours.**

A continuation of HSV 291, focused on developing and enhancing skills. Students spend at least 10 hours per week, for a total of 150 hours for the semester, at a community agency providing direct service under professional supervision. Students also participate in a weekly 1-hour seminar.

Prerequisites: HSV 291 (minimum grade C)

# Intellectual and Developmental Disabilities Certificate (IDDC)

## Intellectual and Developmental Disabilities Certificate (IDDC)

The Intellectual and Developmental Disabilities Certificate at Cincinnati State prepares graduates for jobs that serve and care for individuals with intellectual and developmental disabilities. Students gain skills related to providing care and treatment options and understanding legal rights of clients while working in educational, social services, or healthcare positions

Certificate students also participate in experiential learning, where they practice applying their skills in an organizational or agency setting. Students who are earning the certificate select elective courses from a track that aligns with their career goals: either Behavioral Sciences or Early Childhood Education.

Students earning an Associate of Applied Science degree in Early Childhood Education (ECE), Human and Social Services (HSS), or Health Sciences Technology (HSCT) may want to add the Intellectual and Developmental Disabilities Certificate as preparation to effectively support children or adult clients who are affected by disabilities.

Graduates of the certificate program also are prepared for entry-level work in group homes, foster care agencies, respite services, supported employment programs, adult day programs, vocational rehabilitation agencies, and early childhood intervention programs.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.state.edu/academics/admission/>) section of the College website.

## Intellectual and Developmental Disabilities Certificate (IDDC)

Semester 1		Lec	Lat	Credits
IDD 105	Introduction to Intellectual and Developmental Disabilities	3	0	3
PSY 110	Introduction to Psychology	3	0	3
XXX XXX	Track	3	0	3
	Elective 1			
Semester 2				
IDD 110	Community Services for Intellectual and Developmental Disabilities	3	0	3
XXX XXX	Track	3	0	3
	Elective 2			
XXX XXX	Track	3	0	3
	Elective 3			
Semester 3				
IDD 115	Legal Rights and Intellectual and Developmental Disabilities	3	0	3
IDD 190	Intellectual and Developmental Disabilities Practicum	1	7	2
EMS 100	CPR and First Aid for the Health Care Professional	1	0	1
Total Credits:				24

## Electives

Students should meet with an advisor prior to selecting electives.

### Behavioral Sciences Track Electives

HSV 110	Introduction to Human Services	3
HSV 115	Counseling and Interviewing Techniques	3

PSY 225	Lifespan Development	3
Early Childhood Education Track Electives		
EDU 105	Introduction to Education	3
ECE 145	The Developing Child	3
EDU 200	Individuals with Exceptionalities	3

## Faculty

### Program Chair/Advisor

Heather Hatchett, PhD  
heather.hatchett@cincinnati.state.edu

## Courses

### IDD 105 Introduction to Intellectual and Developmental Disabilities

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts in the study of intellectual and developmental disabilities (IDD). Topics include: history, definitions, legal rights, identification and treatment options, behavioral interventions and trauma-informed care, community services, life transitions, and the impact of culture in the lives of individuals with IDD. Prerequisites: ENG 085 or appropriate placement

### IDD 110 Community Services for Intellectual and Developmental Disabilities

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to IDD community services and resources. Topics include: professional roles, referrals, early interventions, education and employment options, community living, assistive technology, social inclusion, and supporting diversity. Prerequisites: ENG 085 or appropriate placement

### IDD 115 Legal Rights and Intellectual and Developmental Disabilities

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on legal rights for individuals with intellectual and developmental disabilities. Topics include: the Americans with Disabilities Act; rights and empowerment; abuse and neglect; ethics; service plans and Individualized Education Programs (IEP); Medicaid; IDD and the justice system; and protection of diversity in the IDD community. Prerequisites: IDD 105

### IDD 190 Intellectual and Developmental Disabilities Practicum

**2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students seeking the IDD Certificate participate in an unpaid off-campus learning experience integrated with academic instruction. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: IDD 105 and IDD 110

## Interpreter Training Program & Deaf Studies Certificate (ITP & DSC)

### Interpreter Training Program (ITP)

The Interpreter Training Program at Cincinnati State is a stepping stone toward competency in the field of sign language interpreting, including extensive coursework in American Sign Language (ASL) and Deaf Studies. The combination of classroom instruction, experiential

and self-directed growth, and community involvement creates a rich learning environment. Program graduates earn an Associate of Applied Science degree.

Interpreting between ASL and English is a challenging and complex task. Students learning the profession must develop fluency in a language that is different from spoken languages. Once fluency is achieved, students must develop the skills to facilitate communication quickly and accurately between the two languages.

The skills required for success in Interpreter Training cannot be mastered through classroom attendance alone. Students must devote a great deal of time to study, practice, skill development, observation, and community involvement.

To complete the degree program successfully, students must be able to comprehend, write, and speak in English fluently.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Deaf Studies Certificate (DSC)

The Deaf Studies certificate enables students to learn about sign language and Deaf culture in order to be involved as an advocate or signer, but not as a paid professional interpreter.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Interpreter Training Program (ITP)

**Program Prerequisite:** ASL 101 Beginning American Sign Language 1 and ASL 102 Beginning American Sign Language 2 and ITP 140 Fingerspelling and Numbers or ITP Program Chair consent.

Semester 1		Lec	Lat	Credits
ENG 101	English Composition 1 ( G )	3	0	3
FYE 1XX	First Year Experience Elective ( B )	1	0	1
ITP 125	Deaf Culture and History ( B )	2	0	2
ITP 120	Psychosocial Aspects of Deafness ( B )	2	0	2
ASL 201	Intermediate American Sign Language 1 ( B )	3	1	3
Semester 2				
PSY 110	Introduction to Psychology ( G )	3	0	3
ITP 135	Introduction to the Interpreting Profession ( B )	2	0	2
ASL 202	Intermediate American Sign Language 2 ( B )	3	1	3
ITP 130	Legal Issues of Deafness ( B )	1	0	1

ENG 1XX	English Composition Elective ( G )	3	0	3
Semester 3				
ITP 220	Educational Interpreting ( B )	2	0	2
ITP 230	Intermediate Assessment ( B )	1	0	1
MAT 1XX	Mathematics Elective ( G )	3	2	3
XXX XXX	Arts/ Humanities Elective ( G )	3	0	3
ITP XXX	Interpreting Elective ( B )	2	0	2
Semester 4				
ITP 261	Advanced Interpreting 1: Sign to Voice ( T )	3	0	3
ASL 251	Advanced American Sign Language 1 ( T )	3	1	3
ITP 250	Interactive Interpreting ( T )	3	0	3
ITP 270	Transliterating ( T )	3	0	3
Semester 5				
ITP 265	Interpreting in Specialized Settings ( T )	3	0	3
ASL 252	Advanced American Sign Language 2 ( T )	3	1	3
ITP XXX	Interpreting Practicum 1 Option ( T )	2	10	3
Semester 6				
ITP 262	Advanced Interpreting 2: Sign to Voice ( T )	3	0	3
ITP 280	Interpreter Professionalism ( T )	2	0	2
ITP XXX	Interpreting Practicum 2 Option ( T )	2	10	3
ITP 275	Interpreting in Medical Settings ( T )	2	0	2
Total Credits:		63	26	65

## Electives

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Interpreting Elective

ITP 205	Performance Interpreting	2
ITP 210	Deaf-Blind Interpreting	2
ITP 215	Religious Interpreting	2

ITP 225	Vocabulary Building	2
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**Arts/Humanities Elective**

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130	3
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**Mathematics Elective**

MAT 111	Business Mathematics	3
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MAT 131	Statistics 1	3
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MAT 151	College Algebra	4
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**Interpreting Practicum Options (6 credits of practicum required)**

ITP 191	ITP Limited Practicum 1	1
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ITP 192	ITP Limited Practicum 2	1
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ITP 193	ITP Limited Practicum 3	1
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ITP 194	ITP Limited Practicum 4	1
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ITP 195	ITP Limited Practicum 5	1
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ITP 196	ITP Limited Practicum 6	1
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ITP 291	ITP Parallel Practicum 1	2
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ITP 292	ITP Parallel Practicum 2	2
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ITP 293	ITP Parallel Practicum 3	2
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ITP 294	Educational Interpreting Practicum	2
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ITP 295	ITP General Practicum 1	3
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ITP 296	ITP General Practicum 2	3
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Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

**Deaf Studies Certificate (DSC)**

<b>Semester 1</b>		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
ITP 120	Psychosocial Aspects of Deafness	2	0	2
ASL 102	Beginning American Sign Language 2	3	1	3
ITP 125	Deaf Culture and History	2	0	2
ITP 140	Fingerspelling and Numbers	2	0	2
<b>Semester 2</b>				
ITP 130	Legal Issues of Deafness	1	0	1
ITP 135	Introduction to the Interpreting Profession	2	0	2
ASL 201	Intermediate American Sign Language 1	3	1	3
<b>Semester 3</b>				
ITP 220	Educational Interpreting	2	0	2

ASL 202	Intermediate American Sign Language 2	3	1	3
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ITP XXX	Interpreting Elective 1			2
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ITP XXX	Interpreting Elective 2			2
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Total Credits:		20	3	24
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**Program Prerequisite:** Prior to enrolling in ASL 102 Beginning American Sign Language 2, students must complete ASL 101 Beginning American Sign Language 1 (or program chair consent)

**Electives****Interpreting Elective (select 2 courses)**

ITP 205	Performance Interpreting	2
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ITP 210	Deaf-Blind Interpreting	2
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ITP 215	Religious Interpreting	2
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**Interpreter Training Program (ITP)**

- Demonstrate knowledge of the profession's Code of Professional Conduct and professional standards by analyzing interpreting related scenarios using the Demand-Control Schema to determine appropriate actions.
- Apply academic, professional, and world knowledge to the options and decisions made while interpreting in the community.
- Exhibit effective interpreting and transliterating skills receptively and expressively.
- Demonstrate the ability to professionally work within a team environment incorporating appropriate attire, behavior, and ethical business practices.
- Recognize, understand, and apply the appropriate etiquettes of Deaf Culture norms.
- Cultivate an openness to new ideas about Deaf awareness and the ability to recognize audism and to avoid oppressive behavior of all kinds.
- Demonstrate the ability to effectively communicate in ASL with diverse members of the Deaf community in many types of settings.
- Demonstrate an understanding of multicultural approaches to the work of interpreting and incorporate effective bi-lingual and bi-cultural aspects to the work.
- Demonstrate the ability to appropriately self-assess signing and voicing skills in relation to a variety of interpreting settings and consumers to make appropriate decisions in regards to discretion in accepting assignments.
- Demonstrate effective interpreting skills in one-on-one, small group, and some large group settings as an entry level interpreter in the field.

**Faculty****Program Chair/Advisor**

Dawn Caudill, CI, CT, NAD5  
dawn.caudill@cincinnatiastate.edu

**Other Full-time Faculty**

Anthony Merchinsky, BS

anthony.merchinsky@cincinnatiastate.edu

## Courses

### **ITP 120 Psychosocial Aspects of Deafness**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

An introductory course on psychosocial aspects of Deafness. Topics include: language, norms of behavior, values, and traditions within Deafness; and the evolution of the view of Deaf people from a pathological to a cultural perspective.

Prerequisites: None

### **ITP 125 Deaf Culture and History**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

An introductory course on the unique characteristics influencing Deaf people throughout the past hundred years, and the achievements and accomplishments of Deaf individuals in various professional fields.

Prerequisites: None

### **ITP 130 Legal Issues of Deafness**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on the legal rights of the Deaf and people with other disabilities, and the social service organizations and other agencies that serve the Deaf population.

Prerequisites: None

### **ITP 135 Introduction to the Interpreting Profession**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course offering a framework for understanding the field of interpreting. Topics include: role of the interpreter in various settings, the interpreting process, physical factors, language variations, and the Code of Professional Conduct.

Prerequisites: None

### **ITP 140 Fingerspelling and Numbers**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course providing intensive practice in comprehension and production of fingerspelled words and numbers, with emphasis on clarity and accuracy.

Prerequisites: ITP 101 (minimum grade C) or ITP Program Chair consent

### **ITP 191 ITP Limited Practicum 1**

**1 Credit. 1 Lecture Hour. 3 Lab Hours.**

Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 250 (minimum grade C)

### **ITP 192 ITP Limited Practicum 2**

**1 Credit. 1 Lecture Hour. 3 Lab Hours.**

A continuation of ITP 191. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 191 (minimum grade C)

### **ITP 193 ITP Limited Practicum 3**

**1 Credit. 1 Lecture Hour. 3 Lab Hours.**

A continuation of ITP 192. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 192 (minimum grade C)

### **ITP 194 ITP Limited Practicum 4**

**1 Credit. 1 Lecture Hour. 3 Lab Hours.**

A continuation of ITP 193. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 193 (minimum grade C)

### **ITP 195 ITP Limited Practicum 5**

**1 Credit. 1 Lecture Hour. 3 Lab Hours.**

A continuation of ITP 194. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 194 (minimum grade C)

### **ITP 196 ITP Limited Practicum 6**

**1 Credit. 1 Lecture Hour. 3 Lab Hours.**

A continuation of ITP 195. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 195 (minimum grade C)

### **ITP 205 Performance Interpreting**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on interpreting for theatre and other performance art venues. Topics include: vocabulary and skill building, and script translation.

Prerequisites: ITP 201 (minimum grade C)

### **ITP 210 Deaf-Blind Interpreting**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the skills, protocols, and techniques necessary to communicate with, interpret for, and guide individuals who are Deaf-Blind.

Prerequisites: ITP 201 (minimum grade C)

### **ITP 215 Religious Interpreting**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on interpreting in religious settings. Topics include: religious signs and their relationships to various religious settings.

Prerequisites: ITP 201 (minimum grade C)

### **ITP 220 Educational Interpreting**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on interpreting in educational settings. Topics include: the educational setting, the code of professional conduct, inservicing, and the IEP process. The Ohio Department of Education's Interpreter Guidelines are included in the curriculum.

Prerequisites: ITP 201 (minimum grade C)

### **ITP 225 Vocabulary Building**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course reviewing sign vocabulary already learned as well as introduction of new vocabulary in order to scaffold the student's sign vocabulary base. Topics include: ASL structure, appropriate sign parameters, and conceptual accuracy.

Prerequisites: ITP 201 (minimum grade C)

### **ITP 230 Intermediate Assessment**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on reviewing and teaching ASL vocabulary and structure, culminating in the Intermediate Assessment. Students receive a course grade of Satisfactory or Unsatisfactory.

Prerequisites: ITP 201 (minimum grade C)

Corequisites: Take ITP-202

**ITP 250 Interactive Interpreting****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theoretical strategies and practice in interpreting simultaneously between spoken English and American Sign Language. Topics include: applying components of the Demand-Control schema, and applying advanced interpreting techniques. Students must pass this class as a prerequisite to practicum experience.

Prerequisites: ITP 202 and ITP 230 (minimum grade C for both)

**ITP 261 Advanced Interpreting 1: Sign to Voice****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles and strategies of interpreting from American Sign Language into spoken and written English equivalents. Topics include: the technical and mental processes involved in ASL-to-English interpretation simultaneously and consecutively using the Colonomos and Gish Models.

Prerequisites: ITP 202 and ITP 230 (minimum grade C for both)

**ITP 262 Advanced Interpreting 2: Sign to Voice****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ITP 261. Topics include: signing with live models and unknown material.

Prerequisites: ITP 261 (minimum 80% on Voicing Evaluation)

**ITP 265 Interpreting in Specialized Settings****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on specialized vocabulary used in advanced interpreting settings. Topics include: vocabulary related to mental health, social work, and legal interpreting settings.

Prerequisites: ITP 202 and ITP 230 (minimum grade C for both)

**ITP 270 Transliterating****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on transmitting spoken English into English-based sign language. Topics include: initialized signs and other English-related communication systems.

Prerequisites: ITP 202 and ITP 230 (minimum grade C for both)

**ITP 275 Interpreting in Medical Settings****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on applying interpreting/transliterating skills in medical settings. Topics include: development of discourse analysis, expressive and receptive skills production, feedback on interpreting skills in this specialized setting, development of specialized vocabulary, and application of the Demand-Control schema.

Prerequisites: ITP 202 and ITP 230 (minimum grade C for both)

**ITP 280 Interpreter Professionalism****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the professional components of becoming a sign language interpreter. Topics include: resume building; and appropriate conduct in the workplace, in interviews, and online.

Prerequisites: ITP 251 (minimum grade C)

**ITP 291 ITP Parallel Practicum 1****2 Credits. 2 Lecture Hours. 5 Lab Hours.**

Students spend five hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 250 (minimum grade C)

**ITP 292 ITP Parallel Practicum 2****2 Credits. 2 Lecture Hours. 5 Lab Hours.**

A continuation of ITP 291. Students spend five hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 291 (minimum grade C)

**ITP 293 ITP Parallel Practicum 3****2 Credits. 2 Lecture Hours. 5 Lab Hours.**

A continuation of ITP 292. Students spend five hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 292 (minimum grade C)

**ITP 294 Educational Interpreting Practicum****2 Credits. 2 Lecture Hours. 5 Lab Hours.**

Students spend 100 hours during the semester in a K-12 setting completing supervised observations of a working interpreter and practice in the role of an educational interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 192 or ITP 291 or ITP 295 (minimum grade C for all)

**ITP 295 ITP General Practicum 1****3 Credits. 2 Lecture Hours. 10 Lab Hours.**

Students spend ten hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 250 (minimum grade C)

**ITP 296 ITP General Practicum 2****3 Credits. 2 Lecture Hours. 10 Lab Hours.**

A continuation of ITP 295. Students spend ten hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 295 (minimum grade C)

## Law Enforcement (ATSLE)

### Law Enforcement (ATSLE)

The Associate of Technical Studies degree program in Law Enforcement is for individuals currently working in law enforcement who want to qualify for advancement within their field. The ATSLE provides an opportunity for certified Ohio police/peace officers to obtain an associate's degree.

To enroll in this program, students must have a certificate in basic peace officer training issued by the Ohio Peace Officer Training Academy or equivalent state/federal law enforcement training. The OPOTA certificate is equivalent to 16 credit hours toward the associate's degree. Training must be approved by the Program Chair to be awarded academic credit.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

## Law Enforcement (ATSLE)

Semester 1		Lec	Lat	Credits
PST 150	Law Enforcement Studies: Advanced Standi ( T)	16	0	16
ENG 101	English Composition 1 ( G)	3	0	3
FYE 1XX	First Year Experience Elective (B)	1	0	1
Semester 2				
MAT 130	G			4
SOC 105	Introduction to Sociology ( T)	3	0	3
CULT 105	Issues in Human Diversity ( B)	3	0	3
COMM 110	Public Speaking ( B)	3	0	3
ENG 10X	English Composition Elective (G)	3	0	3
Semester 3				
MGT 101	Principles of Management ( B)	3	0	3
PSY 110	Introduction to Psychology ( G)	3	0	3
ACC 101	Financial Accounting ( T)	2	2	3
MGT 105	Human Resource Management ( B)	3	0	3
Semester 4				
PHI 110	Ethics ( G)	3	0	3
LBR 105	Introduction to Labor and Employee Relations ( B)	3	0	3
ACC 102	Managerial Accounting ( T)	2	2	3
MGT 220	Leadership ( T)	3	0	3
MGT 110	T	3	0	3
Total Credits:		57	4	63

## Electives

### First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio

Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

## Faculty

### Program Chair/Advisor

Thomas Bauer, MS  
thomas.bauer@cincinnatiastate.edu

## Courses

### PST 100 Introduction to Emergency Management

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professionalism and ethics in the safety and security career fields. Topics include: risk assessment, mitigation, and response; disaster recovery; preparedness; and communications. Prerequisites: ENG 085 or appropriate placement

### PST 110 Introduction to Homeland Security

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on key principles of emergency management and their relationship to homeland security. .

Prerequisites: None

### PST 115 Introduction to Terrorist Groups

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the history, motivation, and activities of terrorists. Topics include: how terrorist groups and individuals evolve, and how governments respond to terrorist events.

Prerequisites: None

### PST 120 Intelligence Analysis and Security Management

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on key principles of physical security. Topics include: passive detection systems; assessing risk; understanding rules of evidence and testifying in court; and using tools such as link analysis, event flow diagrams, and visual intelligence analysis diagrams.

Prerequisites: None

### PST 125 Public Safety Contingency Planning

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on techniques for developing continuity of operations plans (COOP), continuity of government plans (COG), and event and community hazard plans.

Prerequisites: PST 110

### PST 130 Public Safety Communication Practices

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on techniques for communication with employees, the community, and the media during a crisis event.

Prerequisites: None

### PST 135 Disaster Preparedness for Healthcare Workers

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on disaster preparedness, incident command, and risks and hazards as related to the healthcare worker.

Prerequisites: None



**PST 140 Public Safety Telecommunicator****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of the telecommunicator. Topics include: classifying and prioritizing calls, responding to calls, managing equipment and records, functioning under the Federal Communications Commission (FCC), and professional ethics.  
Prerequisites: ENG 085 or appropriate placement

**PST 145 Emergency Medical Dispatcher****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the responsibilities of the emergency medical dispatcher. Topics include: assessing and prioritizing emergency calls, dispatching the appropriate response, and giving callers appropriate instructions until the responding EMS unit arrives.  
Prerequisites: PST 140

**PST 150 Law Enforcement Studies: Advanced Standi****16 Credits. 16 Lecture Hours. 0 Lab Hour.**

Students may receive up to 16 semester credit hours for successful completion of the Ohio Peace Officer Basic Training or equivalent state/federal law enforcement training. Approval of training by the ATS-Law Enforcement Program Chair is required.

Prerequisites: Program Chair consent

Instructor Consent Required

**PST 200 Healthcare Security****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on healthcare security programs. Topics include: preventing accidents and injuries, fire safety, and crisis intervention.

Prerequisites: PST 120

**PST 205 Transportation Security****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on providing security for various modes of transportation and transportation facilities. Topics include: airports, railroads, ports, trucking, and pipelines.

Prerequisites: None

**PST 291 Full-Time Cooperative Education 1: Public Safety Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PST 100 (minimum grade C)

Instructor Consent Required

**PST 292 Part-Time Internship 1: Public Safety Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in a part-time unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit.

Prerequisites: PST 100 (minimum grade C)

**PST 294 Full Time Internship 1: Public Safety Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in a full-time unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PST 100 (minimum grade C)

## Leadership Certificate (LDRC)

### Leadership Certificate (LDRC)

The Leadership Certificate complements many degree programs. Students develop skills that apply to leadership positions in a variety of work and community environments, including skills in communication, small group facilitation, critical analysis, and problem solving.

Students who complete the Leadership Certificate gain knowledge of their own leadership styles, abilities, and outcomes through classroom activities as well as real-world leadership experiences.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission/>) section of the College website.

### Leadership Certificate (LDRC)

**First Year****Semester 1**

		<b>Lec</b>	<b>Lat</b>	<b>Credits</b>
LDR 100	Introduction to Leadership	3	0	3
ENG 101	English Composition 1	3	0	3
XXX XXX	Social Science Elective	3	0	3

LDR XXX Practical Leadership Elective 2	3	0	3
Total Credits:	31	0	31

## Electives

Students should consult with their advisor before choosing electives. Courses not listed below may be used only with prior permission of the chair.

### Communication Elective (must take at least 1)

COMM 105	Interpersonal Communication (Communication Competency)	3
COMM 110	Public Speaking	3
COMM 205	Small Group Communication	3
NDR 100	Introduction to Negotiation and Dispute Resolution	3

### Social Science Elective (must take at least 1)

PSY 100	Applied Psychology: Human Relations	3
PSY 102	Applied Psychology: Stress Management	3
PSY 110	Introduction to Psychology	3
SOC 105	Introduction to Sociology	3

### Leadership Theory Elective

LDR 240	Applied Leadership Theory	3
MGT 220	Leadership	3

### Self-Leadership Elective

PSY 105	Psychology of Leadership	4
LDR 105	Self as Leader	3

### Practical Leadership Electives (select 2)

LDR 110	Leading for Social Change	3
LDR 200	Transformational Leadership in Practice	3
LDR 220	Critical Thinking in Leadership <sup>1</sup>	3
LDR 230	Ethical Leadership	2
LDR 225	Leading Teams <sup>1</sup>	3

<sup>1</sup> Students may use either LDR 220 or LDR 225 to fulfill the elective requirement, but not both

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Program Chair/Advisor

Julie McLaughlin, MA  
julie.mclaughlin@cincinnatiastate.edu

## Courses

### LDR 100 Introduction to Leadership

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A foundational course on the practice of leadership. Topics include: understanding and assessing self as leader, inclusion, ethics, listening to out-group members, leaders and followers, and managing conflict. Students examine their characteristics that prepare them for leadership and their areas that may need development.

Prerequisites: ENG 080 (minimum grade C) or appropriate placement

### LDR 105 Self as Leader

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developing leadership skills and designing a personal model of leadership. Topics include: assessing strengths and areas of growth to develop as a leader, perceptions of leadership, values and ethics, decision-making, motivation, innovation, emotional intelligence, and making a difference.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement

### LDR 110 Leading for Social Change

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the Social Change Model of leadership development. Topics include: identifying values, beliefs, and social identity in the context of leadership for the common good; leadership and global citizenship; civic engagement; and integrating leadership with cultural competency and social justice. Students design, facilitate, and evaluate a social change project.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement

### LDR 120 Inclusive Leadership

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on leading diverse groups and individuals. Topics include: building on differences, creating an inclusive team culture and climate, adapting leadership styles for the appropriate context, and inclusive leadership skills and competencies.

Prerequisites: LDR 100 and ENG 085 (minimum grade C for both) or appropriate placement

### LDR 200 Transformational Leadership in Practice

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts and applications of transformational leadership. Topics include: recognizing leadership traits and styles, team leadership skills, and positive peer mentoring skills. Students in this course serve as peer mentors for students beginning their college career.

Prerequisites: PSY 105 (minimum grade B)

### LDR 220 Critical Thinking in Leadership

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students to apply leadership skills in critical thinking, problem solving, and team building, and also prepares students for Collegiate Leadership Competition events.

Prerequisites: ENG 085 or appropriate placement

Instructor Consent Required

### LDR 225 Leading Teams

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on leading highly successful teams. Topics include: team dynamics and communication, theories of group intervention, and leader styles and behaviors that facilitate team performance. Students function as team members and as a team leader.

Prerequisites: ENG 085 or appropriate placement, and LDR 100 (minimum grade C for both)

**LDR 230 Ethical Leadership**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on concepts and approaches to applying ethics to leadership. Topics include: self-assessment of leadership skills, strategies for promoting ethical decision-making in varied situations, and meeting the ethical challenges of cultural diversity.

Prerequisites: LDR 100 and ENG 085 (minimum grade C for both), or appropriate placement

**LDR 240 Applied Leadership Theory**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on applying current interdisciplinary theories of leadership to the practice of leadership. Topics include: foundational and emerging research on leadership, social identity, in-group and out-group categorization, obedience and conformity, and persuasion.

Prerequisites: LDR 100 or LDR 105 or PSY 105, and ENG 101 (minimum grade C for all)

**LDR 290 Leadership Capstone**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

Students complete a project that applies the knowledge and skills gained from previous Leadership courses and experiences.

Prerequisites: LDR 240 or MKT 220 (minimum grade C for both)

## Ohio Transfer Module Certificate (OTMC)

### Ohio Transfer Module Certificate (OTMC)

The Ohio Transfer Module (OTM) is a set of general education courses recognized by the state of Ohio as transferable to any public institution of higher education.

Students earning an associate's degree in an Applied Science or Applied Business field who plan to continue in a bachelor's degree program can add the Ohio Transfer Module Certificate to provide a complete set of transferable general education courses.

Students work with an advisor to ensure that the courses chosen for the OTM Certificate meet the needs of the institution where the student will complete their bachelor's degree.

Some institutions will accept the OTM as a "block credential," allowing students to transfer to a bachelor's degree program with all general education courses considered completed.

For more information, please contact the Humanities and Sciences Division at (513) 569-1700.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati-state.edu/academics/admission/>) section of the College website.

### Ohio Transfer Module Certificate (OTMC)

Semester 1		Lec	Lat	Credits
ENG 101	English Composition 1	3	0	3
XXX XXX	Arts/ Humanities Elective 1	3	0	3

XXX XXX	Social/ Behavioral Science Elective 1	3	0	3
MAT XXX	Mathematics Elective	2	2	3
<b>Semester 2</b>				
ENG 10X	English Composition 2 Elective	3	0	3
XXX XXX	Arts/ Humanities Elective 2	3	0	3
XXX XXX	Social/ Behavioral Science Elective 2	3	0	3
XXX XXX	Natural/ Physical Science Elective 1	2	2	3
<b>Semester 3</b>				
COMM 110	Public Speaking	3	0	3
XXX XXX	Natural/ Physical Science Elective 2	2	2	3
XXX XXX	Transfer Module Elective 1 *	3	0	3
XXX XXX	Transfer Module Elective 2 *	3	0	3
<b>Total Credits:</b>		<b>33</b>	<b>6</b>	<b>36</b>

\* Transfer Module Electives may be chosen from any Transfer Module category. Students should consult with an advisor when choosing elective courses.

**English Composition 2 Elective**

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

**Mathematics Elective**

MAT 131	Statistics 1	3
MAT 132	Statistics 2	3
MAT 151	College Algebra	4

MAT 152	Trigonometry	4	POL 101	Introduction to American Government	3
MAT 153	Pre-Calculus	6	POL 102	Introduction to Comparative Governments and Politics	3
MAT 215	Business Calculus	6	ECO 105	Principles of Microeconomics	3
MAT 251	Calculus 1	5	ECO 110	Principles of Macroeconomics	3
MAT 252	Calculus 2	5	PSY 110	Introduction to Psychology	3
MAT 253	Calculus 3	5	PSY 200	Abnormal Psychology	3
<b>Arts/Humanities Electives</b>					
ART 110	Introduction to Art	3	PSY 205	Child Development	3
ART 111	Art History: Ancient to Medieval Periods	3	PSY 210	Adolescent Development	3
ART 112	Art History: Renaissance to the Present	3	PSY 215	Adult Development	3
COMM 130	Introduction to Film Studies	3	PSY 220	Social Psychology	3
MUS 101	Music History: Middle Ages to Late 19th Century	3	PSY 225	Lifespan Development	3
MUS 102	Music History: 20th Century	3	SOC 105	Introduction to Sociology	3
MUS 105	Music History: African-American Music	3	SOC 115	Marriage and the Family	3
MUS 110	Jazz Appreciation	3	SOC 130	Sociology of Aging	3
MUS 115	Rock and Pop Music	3	SOC 140	Sociology of Gender	3
MUS 120	World Music	3	<b>Natural/Physical Science Electives</b>		
THE 105	Theater Appreciation	3	BIO 111	Biology: Unity of Life	4
THE 110	History of Theater	3	BIO 112	Biology: Diversity of Life	4
LIT 200	Introduction to Literature	3	BIO 131	Biology 1	5
LIT 210	The Short Story	3	BIO 132	Biology 2	5
LIT 220	Poetry	3	BIO 151	Anatomy and Physiology 1	4
LIT 230	Drama	3	BIO 152	Anatomy and Physiology 2	4
LIT 240	The Novel	3	CHE 105	Everyday Chemistry	3
LIT 251	American Literature to 1865	3	CHE 110	Fundamentals of Chemistry	4
LIT 252	American Literature since 1865	3	CHE 111	Bio-Organic Chemistry	4
LIT 255	African American Literature	3	CHE 115	General, Organic, and Biological Chemistry	4
LIT 261	British Literature: Medieval Period to 1800	3	CHE 121	General Chemistry 1	5
LIT 262	British Literature: 1800 to Present	3	& CHE 131	and General Chemistry 1 Lab	
LIT 265	Shakespeare	3	CHE 122	General Chemistry 2	5
LIT 270	Children's Literature	3	& CHE 132	and General Chemistry 2 Lab	
LIT 280	Science Fiction	3	CHE 201	Organic Chemistry 1	5
LIT 285	Women Writers	3	& CHE 211	and Organic Chemistry 1 Lab	
PHI 105	Introduction to Philosophy	3	CHE 202	Organic Chemistry 2	5
PHI 110	Ethics	3	& CHE 212	and Organic Chemistry 2 Lab	
REL 105	World Religions	3	EVS 110	Environmental Science: Conservation and Cleanup	4
<b>Social/Behavioral Science Electives</b>					
GEO 105	World Regional Geography: the Americas, Europe, and Australia	3	EVS 120	Environmental Geology	4
GEO 110	World Regional Geography: Asia, Africa, and the Middle East	3	EVS 130	Environmental Science: Ecology and Ecosystems	4
GEO 115	Cultural Geography	3	PHY 151	Physics 1: Algebra and Trigonometry-Based	4
HST 101	World History: First Civilizations to 1500	3	PHY 152	Physics 2: Algebra and Trigonometry-Based	4
HST 102	World History: 1500 to Present	3	PHY 201	Physics 1: Calculus-Based	5
HST 111	American History: Early Settlers to 1877	3	PHY 202	Physics 2: Calculus-Based	5
HST 112	American History: 1877 to Present	3	PSC 105	Astronomy	4
HST 121	African American History: Origins to 1877	3	PSC 110	Earth Science	4
HST 122	African American History: 1877 to Present	3	PSC 115	Energy and the Environment	3
HST 130	History of Africa	3	Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.		
HST 161	Western Civilization: Origins to 1648	3	• This curriculum displays only course numbers without the added letter.		
HST 162	Western Civilization: 1648 to Present	3			
LBR 105	Introduction to Labor and Employee Relations	3			

- The alternative version, when available, meets the requirements of the course version without the added letter.

## Faculty

### Program Chair/Advisor

Jen Martin, MA  
jennifer.martin@cincinnati.state.edu

## First Year Experience (FYE) Requirement

All Cincinnati State students who enroll in a degree program are required to complete a First Year Experience (FYE) course: [FYE 100](http://catalog.cincinnati.state.edu/search/?P=FYE%20100) (<http://catalog.cincinnati.state.edu/search/?P=FYE%20100>) College Survival Skills (placement into ENG 101 is required); [FYE 105](http://catalog.cincinnati.state.edu/search/?P=FYE%20105) (<http://catalog.cincinnati.state.edu/search/?P=FYE%20105>) College Success Strategies; or [FYE 110](http://catalog.cincinnati.state.edu/search/?P=FYE%20110) (<http://catalog.cincinnati.state.edu/search/?P=FYE%20110>) Community College Experience.

FYE courses introduce students to the college experience and to Cincinnati State's expectations and resources for new students, as well as college and life success skills. Students should work closely with an academic advisor to select and enroll in the appropriate FYE course.

**The FYE course must be completed as part of the first semester of classes taken at Cincinnati State.** Students in the Cincinnati State Honors Program fulfill the FYE course requirement by completing [HNR 100](http://catalog.cincinnati.state.edu/search/?P=HNR%20100) (<http://catalog.cincinnati.state.edu/search/?P=HNR%20100>) Orientation to Honors.

Some certificate programs also require students to complete an FYE course. The curriculum published in this Catalog for each certificate program indicates if completion of an FYE course is required.

Degree-seeking or certificate-seeking students who have already successfully completed 18 or more semester credits of college-level courses at another college or university, and have received Cincinnati State transfer credit for these courses, are not required to complete an FYE course.

## The Honors Program

The Cincinnati State Honors Program supports the College goal of serving all aspects of the community by offering enhanced learning opportunities to academically talented, highly motivated students. The Honors Program curriculum complements existing degree programs; students can take Honors sections of many required courses.

The Honors Program strives to establish an intellectual community among students and faculty by providing challenging coursework, academic enrichment activities, academic honors advising, and opportunities for student involvement. Honors Program graduates receive recognition at commencement and on their diploma and transcripts.

The Honors Program is open to full-time and part-time admitted degree-seeking students, in all divisions of the College, who meet the entry criteria listed below. Students are first admitted to a degree program and then to the Honors Program.

All Honors Program students must take HNR 100 Orientation to Honors, as a prerequisite to or concurrent with other Honors classes.

Students accepted into the Honors Program who begin at Cincinnati State in the Fall Semester are eligible to apply for an Honors Program scholarship.

In addition to HNR 100 Orientation to Honors, courses regularly offered as part of the Honors Program include:

BIO 151	Anatomy and Physiology 1	4
BIO 152	Anatomy and Physiology 2	4
COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3
ENG 101	English Composition 1	3
ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
HST 111	American History: Early Settlers to 1877	3
HST 112	American History: 1877 to Present	3
HNR 198	First Year Special Topics in Honors Program	1-9
LAW 101	Business Law	3
LIT 200	Introduction to Literature	3
LIT 210	The Short Story	3
LIT 240	The Novel	3
LIT 285	Women Writers	3
PHI 105	Introduction to Philosophy	3
PSY 110	Introduction to Psychology	3
SOC 105	Introduction to Sociology	3

## Honors Program Entrance Criteria

1. For a new student, entering Cincinnati State from high school, must have one of the following:
  - High school GPA of 3.25 or higher
  - High school rank in top 20%
  - ACT score of 26
2. For a current Cincinnati State student: Must have college GPA of 3.25 after 12 academic credits
3. For a transfer student entering Cincinnati State: Must have college GPA of 3.25 after 12 academic credits

All students applying for the Honors Program must submit two letters of recommendation from persons familiar with their academic potential and performance in a teaching/learning environment.

## For more information

Contact Dr. Andrea Trapp, Honors Program Chair, at (513) 569-1646, or visit the Honors Program (<http://www.cincinnati.state.edu/real-world-academics/honors-experience-at-cincinnati-state/honors-experience-at-cincinnati-state/?searchterm=honors>) page on the College website.

## Academic Foundations

Academic foundations-level (developmental) courses are available for students whose placement criteria indicate a need for additional preparation in the areas of reading, writing, and/or math skills before entering their program of study. Typically, students complete developmental courses prior to taking core courses in their degree

program. However, in some cases, developmental courses can be taken in conjunction with program-level coursework.

Students who need developmental courses should work closely with their assigned academic advisor, who assists the student in selecting appropriate coursework and monitors the student's progress toward meeting program admission requirements.

Developmental courses include English (ENG) and Mathematics (MAT) courses with course numbers that begin with a zero (0), and ESL (English as a Second Language) courses. These courses are counted in the total number of attempted hours on student transcripts, but they are not used to calculate a student's grade point average (GPA).

Even though grades in developmental courses do not affect the GPA, they can affect financial aid eligibility. In addition, developmental courses cannot be counted toward meeting graduation requirements.

The following developmental courses are offered regularly:

ENG 080	Fundamentals of College Reading and Writing	5
MAT 093	Math Literacy	5
MAT 096	Beginning and Intermediate Algebra	5
ESL 051	English as a Second Language Level 1	4
ESL 052	English as a Second Language Level 2	4
ESL 055	English as a Second Language: Grammar	2
ESL 060	English as a Second Language: Pronunciation	2

Students may be advised to take other developmental courses not listed above to meet specific program preparation needs.

## English and Mathematics Boot Camps

Students who wish to take more advanced English or Math courses than indicated by initial placement recommendations have the opportunity to prepare for higher level courses by participating in a week-long, individualized "boot camp" mini-course for English or Math that builds confidence and refreshes skills. The schedule for Boot Camps is available from the Humanities & Sciences Division office (Main 232, Clifton Campus).

## ESL Courses

English Language learners who successfully complete courses in English as a Second Language (ESL) are considered to have completed developmental writing and reading courses. Additional developmental writing and reading courses are not required.

## Math Center

The Math Center (<https://www.cincinnati-state.edu/students/student-support/tutoring/math-center/>) in Room 228B of the Main Building (Clifton Campus) offers instructional support at no charge to any Cincinnati State student whose coursework includes mathematics-oriented assignments. Math Center faculty are credentialed STEM (science, technology, engineering, and mathematics) instructors who provide guidance to students in courses including Mathematics, Physics, and Chemistry. Workshops on study skills and note-taking are available throughout the year. Math Center assistance is available on a walk-in basis.

## Writing Center

The Writing Center (<http://www.cincinnati-state.edu/real-world-academics/student-services/writing-center/>) in Room 235 of the Main Building (Clifton Campus) offers instructional support at no charge to any Cincinnati State student whose coursework includes written assignments. Writing Center faculty are credentialed writing instructors who provide guidance to students in all facets of the writing process. The Writing Center offers workshops on writing and research topics throughout the year. Writing Center assistance is available by appointment using Starfish and on a walk-in basis.

## Tutoring Center

The Tutoring Center (<https://www.cincinnati-state.edu/tutoring/>) is located in Room 261 of the Main Building on Clifton Campus. Individual or group tutoring is available to Cincinnati State students in a variety of subject areas and is free of charge. Instruction is provided by qualified faculty or by student tutors who are recommended by faculty. All tutors receive training in practices that promote independent learning.

Tutoring appointments can be requested in person at the Tutoring Center or through Starfish. Drop-in tutoring and tutoring by appointment are available for students who need assistance.

## Online Tutoring

The Writing Center provides assistance for English Composition courses in all online sections. Online tutoring is available at <https://www.etutoring.org> (<https://www.etutoringonline.org/>). From the first page of this website:

- Click the "Select College" button
- Then choose *Ohio eTutoring Collaborative*
- Then choose "Cincinnati State"
- Log in with your Cincinnati State username and password

## Academic Advising

Academic advising assists students in reaching their academic and career goals at Cincinnati State. Program chairs, academic advisors, other faculty members, and some staff members are assigned to guide students through activities such as:

- Setting academic goals
- Developing educational plans
- Selecting courses
- Providing information on transfer credits
- Understanding and meeting requirements for graduation
- Clarifying career and personal goals
- Explaining academic policies and procedures
- Addressing academic challenges
- Making appropriate referrals to campus support services

## Distance and Online Learning

### Online Learning

Visit [www.cincinnati-state.edu/online/](http://www.cincinnati-state.edu/online/) (<http://www.cincinnati-state.edu/online/>) on the College website for the most current information about online learning.

Cincinnati State offers many courses either totally or partially online. Online courses at Cincinnati State offer students a choice in how to complete coursework.

## Definitions

- **Totally online courses** (marked **WEB** on course schedules) have no on-campus meetings and are delivered completely through online interaction between the instructor and students.
  - In some WEB courses, students may be required to take tests on campus or at a specially-arranged proctored location.
  - Participating students must have a computer and reliable internet access, but are not required to access the course via live audio and video streaming.
- **Partially online (Hybrid) courses** (marked **HYB** on course schedules) have more than 70% of the educational activities online, but also include some required, regularly-scheduled on-campus meetings, which could include (for example) completing lab activities or delivering speeches.
  - Testing in HYB courses may occur online, on campus, or at specially-arranged proctored sites.
  - Participating students must have a computer and reliable internet access, but are not required to access the course via live audio and video streaming.
- **Live Web courses** (marked **LIVW** on course schedules) are delivered completely online, with extensive required participation at scheduled days and times using live web-conferencing tools such as Blackboard Collaborate, Zoom, or other tools.
  - Participating students must have reliable high-speed internet access and a computer capable of supporting live audio and video streaming.
- **Web Hybrid courses** (marked **WHYB** on course schedules) are delivered completely online, with occasional required participation at scheduled days and times using live web-conferencing tools such as Blackboard Collaborate, Zoom, or other tools.
  - Participating students must have reliable high-speed internet access and a computer capable of supporting live audio and video streaming.

These choices give students flexibility to include college classes in a busy lifestyle.

**Web-enhanced** courses are delivered primarily on-campus with required in-person attendance, but have some assignments, activities, discussions, and/or testing available online. These courses are not considered online learning courses.

## Success in Online Learning

Successful online students exhibit the following traits:

- self-disciplined
- self-motivated
- good time management skills
- independent learners
- effective readers and writers
- effective problem solvers

Success in online classes also requires students to be comfortable using basic features and functions of a computer, such as:

- sending and receiving email
- downloading software
- attaching and sending documents
- resolving simple technology issues
- using word processing software

Some online courses require students to use other computer skills also.

## Orientation for Cincinnati State Online Courses

Cincinnati State offers an Online Orientation Workshop for students considering this delivery method. The workshop includes online activities that students work on at their own pace, and should take about one to three hours to complete. For instructions on how to enroll, go to Online Orientation Workshop (<https://www.cincinnati-state.edu/contact-us/campuses/online/orientation/>) on the College website. After enrolling in the workshop, you will be able to:

- use the Blackboard online course delivery tools
- identify policies and procedures that apply to online students
- use College resources that support online students
- recognize characteristics of successful online students

## Taking Exams in Online Courses

In most online courses, students take exams and quizzes online. However, some online learning courses may require students to come to campus for testing, or find a qualified proctor or testing center. External proctors must sign an agreement with the College in order to proctor an exam. Contact your instructor for further information.

## Student Support Services for Online Learning

**Library:** Online students can access available electronic resources through the Johnnie Mae Berry Library, including full text articles, e-books, and streaming videos, from the library's homepage at <https://www.cincinnati-state.edu/library/> (<https://www.cincinnati-state.edu/library/>). Students will be prompted to provide their last name and student 7-digit ID number when logging in to databases and e-book collections.

Library Guides have been created for Online Learning courses. Guides include information on accessing research materials and are available at <http://library.cincinnati-state.edu/guides/> (<http://library.cincinnati-state.edu/guides/>). Students also can get help from a Reference Librarian by calling (513) 569-1606 or using the online chat feature from the library homepage. Students can speak to a Reference Librarian in person during library open hours.

**Bookstore:** Cincinnati State's Follett Bookstore provides online access to order books, supplies, and course materials. Students may order textbooks and merchandise from the bookstore's website, <https://www.bkstr.com/cincinnati-state-techstore/home> (<https://www.bkstr.com/cincinnati-state-techstore/home/>). Online students may have materials shipped to them, or may pick up materials at the bookstore.

Some Cincinnati State online courses require customized versions of textbooks, which are not available at other online retailers. Cincinnati State's bookstore is the only place to obtain these materials. Check

with your instructor to determine if customized materials need to be purchased.

**Information Technology Help Desk:** The College's Information Technology Services Help Desk can assist online students with technical problems related to their online learning courses. Live Help Desk assistance is available at (513) 569-1234, option 1, at these times:

- Monday through Thursday - 7 a.m. to 10 p.m.
- Friday - 7 a.m. to 7 p.m.
- Saturday - 7 a.m. to 2:30 p.m.

Help Desk hours may be reduced during College breaks and/or Summer Semester.

Help Desk assistance is available via email at [itshelpdesk@cincinnati-state.edu](mailto:itshelpdesk@cincinnati-state.edu). Students emailing the Help Desk can expect a response within 24 hours.

**Academic Advising for Online Students:** At Cincinnati State, students are assigned an academic advisor based on their program choice. Advisors for online students are the same as those advising students who complete non-online classes. Students should consult frequently with their advisor—in person, by email, or via phone—to ensure success in achieving academic goals. Students may contact their academic advisor through their division office.

**Registration:** Registration for all Cincinnati State courses is available online. For available online courses, use your Cincinnati State login to view courses on MyServices. Online courses are noted in registration information with the codes WEB (fully-online course), HYB (hybrid course with some required in-person interaction), LIVW (live web course with with extensive required live video and/or audio interaction), or WHYB (web hybrid course with occasional required live video and/or audio interaction).

Online students are encouraged to view the "comments" in online Registration course information for details about required on-campus meetings and/or proctored assessments.

**Cost for Online Courses:** Tuition for online courses is the same as on-campus courses. Web-based courses are assessed an additional fee of ten dollars (\$10) per credit hour.

**How to Get Started:** Applying for admission to Cincinnati State to take online classes is easy and convenient. The admission process is completely online and open to everyone. The admission process is the same for students taking online courses and those taking traditional courses.

To begin your application, visit the Admission (<https://www.cincinnati-state.edu/academics/admission/>) page of the College website.

## Programs and Courses

To view the list of degrees and certificates available fully online, please visit the Online Learning Programs (<https://www.cincinnati-state.edu/online-learning-programs/>) section of the College website.

Program chairs and academic advisors can provide more information about the online courses that are available as options for completing requirements for other degree and certificate programs.

## Courses Available for Credit by Cincinnati State Exam (Test Out)

For additional information on earning credit through internal exams, see "Advanced Standing Credit (p. 359)" in the Academic Policies and Procedures section of this Catalog.

### Business Technologies

No test outs offered

### Center for Innovative Technologies

Course	Course Title	Monitor
BMT 161	Biomedical Instrumentation 1	R. Whaley
BMT 262	Biomedical Instrumentation 2	R. Whaley
EET 101	Electronic Fundamentals 1	R. Whaley
EET 121	Digital Systems 1	R. Whaley
EET 122	Digital Systems 2	R. Whaley
EET 131	Circuit Analysis 1	R. Whaley
EET 132	Circuit Analysis 2	R. Whaley
ESET 220	Microprocessor Systems	R. Whaley
ESET 251	Electronics	R. Whaley
MET 111	Manufacturing Processes 1	M. DeVore
MET 131	MET Computer Aided Drafting 1	M. DeVore

### Health and Public Safety

Course	Course Title	Monitor
HIM 105	Legal Aspects of Health Info. Mgmt.	C. Kneip
HIM 115	Clinical Abstracting of Health Data	C. Kneip
HIM 125	CPT Coding	C. Kneip
HIM 130	International Classification of Diseases (ICD) Coding	C. Kneip
MCH 100	Healthcare Informatics	J. Boles
MCH 101	Medical Terminology 1	J. Boles
MCH 102	Medical Terminology 2	J. Boles
MCH 104	Accelerated Medical Terminology	J. Boles
MCH 138	Patient Care Skills	L. Lucas

### Humanities and Sciences

Course	Course Title	Monitor
ECO 105	Principles of Microeconomics	A. Haensel
ECO 110	Principles of Macroeconomics	A. Haensel
ENG 101	English Composition	A. Thompson



ENG 104	Composition and Technical Communication	A. Thompson
ENG 105	Composition and Business Communication	A. Thompson
LBR 105	Introduction to Labor & Employee Relations	A. Haensel
PSY 110	Introduction to Psychology	H. Hatchett
SOC 105	Introduction to Sociology	H. Hatchett
SOC 115	Marriage and the Family	H. Hatchett
SOC 140	Sociology of Gender	H. Hatchett
SPN 101	Elementary Spanish 1	R. Moreno
SPN 102	Elementary Spanish 2	R. Moreno
SPN 200	Spanish Conversation & Composition	R. Moreno
SPN 201	Intermediate Spanish 1	R. Moreno
SPN 202	Intermediate Spanish 2	R. Moreno
MAT 121	Aviation Mathematics	S. Stafford
MAT 124	Applied Algebra and Geometry	S. Stafford
MAT 125	Algebra and Trigonometry	S. Stafford
MAT 126	Functions and Calculus	S. Stafford
MAT 131	Statistics 1	S. Stafford
MAT 132	Statistics 2	S. Stafford
MAT 151	College Algebra	S. Stafford
MAT 152	Trigonometry	S. Stafford
MAT 153	Pre-Calculus	S. Stafford
MAT 161	College Algebra for Diagnostic Medical Sonography	S. Stafford
MAT 215	Business Calculus	S. Stafford
MAT 251	Calculus 1	S. Stafford
MAT 252	Calculus 2	S. Stafford

## Transfer Module

The State of Ohio has developed a statewide policy to help students transfer their credits for courses completed at one Ohio public college or university to another Ohio institution. The Ohio Transfer Module (p. 349) policy statement is published elsewhere in this Catalog.

The Cincinnati State Transfer Module consists of 36 semester credit hours that transfer to any Ohio public two-year or four-year college or university. Categories and credits students must earn for courses in the Cincinnati State Transfer Module are:

English Composition	6
Oral Communication	3
Mathematics	3

Social/Behavioral Sciences	6
Arts/Humanities	6
Natural/Physical Sciences	6
Transfer Module Electives	6
<b>Total Credits</b>	<b>36</b>

**Students earning the Transfer Module at Cincinnati State select specific courses (listed below) from the above-listed categories, in consultation with an academic advisor.**

Students who graduate from Cincinnati State with the degree Associate of Arts (AA) or Associate of Science (AS) will complete all Transfer Module requirements. Students earning the AA or AS degree also are required to complete additional courses selected from the Transfer Module categories. The full curriculum requirements for AA and AS degrees are published elsewhere in this Catalog.

Students who graduate from Cincinnati State with the degree Associate of Applied Business, Associate of Applied Science, Associate of Individualized Study, or Associate of Technical Study may complete some Transfer Module courses that are required for their degree, but will not automatically complete all Transfer Module requirements. These students may choose to take additional courses, beyond those required for their degree, in order to complete the Transfer Module.

**Students who are completing the Transfer Module, either as part of an AA or AS degree or as an addition to another degree, should consult with their academic advisor** to ensure that courses selected are appropriate for the institution and the degree program that the student plans to pursue after completing studies at Cincinnati State.

The following courses are approved by the Ohio Department of Higher Education to meet the requirements for the Cincinnati State Transfer Module:

### English Composition

Select one of the following courses:

ENG 101	English Composition 1	3
ENG 101A	Intensive English Composition 1	4

Select one of the following courses:

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Oral Communication

COMM 110	Public Speaking	3
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### Mathematics

Note: In addition to completing Academic Foundations math classes indicated by initial academic advising, students must complete a prerequisite math class before enrolling in many of the Transfer Module math classes listed.

Select one of the following courses:

MAT 105	Quantitative Reasoning	3
MAT 131	Statistics 1	3

MAT 132	Statistics 2	3
MAT 151	College Algebra	4
MAT 152	Trigonometry	4
MAT 153	Pre-Calculus	6
MAT 215	Business Calculus	6
MAT 251	Calculus 1	5
MAT 252	Calculus 2	5
MAT 253	Calculus 3	5

## Social/Behavioral Sciences

Select two of the following courses:

### Economics

ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3

### Geography

GEO 105	World Regional Geography: the Americas, Europe, and Australia	3
GEO 110	World Regional Geography: Asia, Africa, and the Middle East	3
GEO 115	Cultural Geography	3

### History

HST 101	World History: First Civilizations to 1500	3
HST 102	World History: 1500 to Present	3
HST 111	American History: Early Settlers to 1877	3
HST 112	American History: 1877 to Present	3
HST 121	African American History: Origins to 1877	3
HST 122	African American History: 1877 to Present	3
HST 130	History of Africa	3
HST 161	Western Civilization: Origins to 1648	3
HST 162	Western Civilization: 1648 to Present	3

### Labor Relations

LBR 105	Introduction to Labor and Employee Relations	3
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### Political Science

POL 101	Introduction to American Government	3
POL 102	Introduction to Comparative Governments and Politics	3

### Psychology

PSY 110	Introduction to Psychology	3
PSY 200	Abnormal Psychology	3
PSY 205	Child Development	3
PSY 210	Adolescent Development	3
PSY 215	Adult Development	3
PSY 220	Social Psychology	3
PSY 225	Lifespan Development	3

### Sociology

SOC 105	Introduction to Sociology	3
SOC 115	Marriage and the Family	3
SOC 130	Sociology of Aging	3
SOC 140	Sociology of Gender	3

## Arts/Humanities

Select two of the following courses:

### Art

ART 110	Introduction to Art	3
ART 111	Art History: Ancient to Medieval Periods	3
ART 112	Art History: Renaissance to the Present	3

### Communication

COMM 130	Introduction to Film Studies	3
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### Literature

LIT 200	Introduction to Literature	3
LIT 210	The Short Story	3
LIT 220	Poetry	3
LIT 230	Drama	3
LIT 240	The Novel	3
LIT 251	American Literature to 1865	3
LIT 252	American Literature since 1865	3
LIT 255	African American Literature	3
LIT 261	British Literature: Medieval Period to 1800	3
LIT 262	British Literature: 1800 to Present	3
LIT 265	Shakespeare	3
LIT 270	Children's Literature	3
LIT 280	Science Fiction	3
LIT 285	Women Writers	3

### Music

MUS 101	Music History: Middle Ages to Late 19th Century	3
MUS 102	Music History: 20th Century	3
MUS 105	Music History: African-American Music	3
MUS 110	Jazz Appreciation	3
MUS 115	Rock and Pop Music	3
MUS 120	World Music	3

### Philosophy

PHI 105	Introduction to Philosophy	3
PHI 110	Ethics	3

### Religious Studies

REL 105	World Religions	3
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### Theatre

THE 105	Theater Appreciation	3
THE 110	History of Theater	3

## Natural/Physical Sciences

Select two of the following courses:

### Biology

BIO 111	Biology: Unity of Life	4
BIO 111	Biology: Unity of Life (online)	4
BIO 112	Biology: Diversity of Life	4
BIO 131	Biology 1	5
BIO 132	Biology 2	5
BIO 151	Anatomy and Physiology 1	4
BIO 152	Anatomy and Physiology 2	4

### Chemistry

CHE 105	Everyday Chemistry	3
CHE 110	Fundamentals of Chemistry	4
CHE 111	Bio-Organic Chemistry	4
CHE 115	General, Organic, and Biological Chemistry	4

CHE 121 & CHE 131	General Chemistry 1 and General Chemistry 1 Lab	5
CHE 122 & CHE 132	General Chemistry 2 and General Chemistry 2 Lab	5
CHE 201 & CHE 211	Organic Chemistry 1 and Organic Chemistry 1 Lab	5
CHE 202 & CHE 212	Organic Chemistry 2 and Organic Chemistry 2 Lab	5

**Environmental Science**

EVS 110	Environmental Science: Conservation and Cleanup	4
EVS 120	Environmental Geology	4
EVS 130	Environmental Science: Ecology and Ecosystems	4

**Physical Science**

PSC 105	Astronomy	4
PSC 110	Earth Science	4
PSC 115	Energy and the Environment	3

**Physics**

PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 152	Physics 2: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5
PHY 202	Physics 2: Calculus-Based	5

## Associate of Individualized Study

Cincinnati State offers the Associate of Individualized Study (AIS) degree to meet unique career education needs for students whose career objectives cannot be achieved through one of the existing associate's degree programs offered by the College.

A student who wishes to be considered for admission to an AIS program must:

1. Meet with the program chair for the Associate of Arts/Associate of Science degree. This meeting is used to make a preliminary determination of whether the student's request for an AIS program is likely to be approved. If approval seems likely, an academic advisor for the AIS program is assigned.
2. Consult with the assigned academic advisor, who assists the student in planning the curriculum for the AIS program. This curriculum must include no fewer than 60 total credits, and must include all College-wide graduation requirements.
3. Complete all College admissions requirements, as described in the Admissions Information (p. 347) section of this Catalog.
4. Write and deliver to the assigned academic advisor a justification of the proposed degree program, including a statement of career goals and an explanation of why another associate's degree program would not be appropriate.

The student's academic advisor presents the proposed AIS curriculum to the College's Academic Policies and Curriculum Committee (APCC) for approval. The APCC approves or denies the AIS program proposal. The APCC may seek additional information and/or suggest modifications to the proposed AIS curriculum prior to taking action.

If the proposed AIS is approved, the student is admitted to the AIS program. If the proposed AIS is denied, the student may wish to apply to another associate's degree program.

## Associate of Technical Study

### Associate of Technical Study – Type A

The Associate of Technical Study (ATS) – Type A degree program allows a student to meet unique career objectives by receiving college credit for qualified non-college training programs, and also combining this training with courses from two or more existing Cincinnati State associate's degree programs.

A student who wishes to be considered for admission to an ATS - Type A program must follow the steps outlined in this Catalog for the Associate of Individualized Studies (AIS) degree (<http://catalog.cincinnati-state.edu/academicdivisionsanddegreeampcertificateprograms/associateofindividualizedstudy/>). The proposed ATS - Type A degree program must be approved by the College's Academic Policies and Curriculum Committee (APCC).

### Associate of Technical Study – Type B

The Associate of Technical Study (ATS) – Type B degree program allows the College to develop associate's degree programs in partnership with professional organizations or businesses that provide specific training programs for their members or employees. The training program is examined by a College review committee to determine if it qualifies for inclusion in an ATS – Type B program. If qualified, the training program is awarded a set number of college credits. Additional components of the proposed degree program are also determined by the review committee.

When implemented, an ATS – Type B program accommodates students who have completed educational programs that are outside traditional college coursework, and allows these students to supplement their professional training with the additional enriching components of a college associate's degree program. The proposed ATS - Type B degree program also must be approved by the College's Academic Policies and Curriculum Committee (APCC).

Some currently-available ATS – Type B programs are identified within the academic division sections of this Catalog.

A student who wishes to be considered for admission to an ATS - Type B program must follow the steps designated by the academic division that offers the ATS - Type B program.

# General Information\*

## Cincinnati State Technical and Community College

Cincinnati State Technical and Community College is a public, two-year college operated under the authority of the Ohio Department of Higher Education and governed by a nine-member Board of Trustees appointed by the Governor of the State of Ohio.

The College currently offers more than 130 associate's degree programs, majors, and certificate programs, as well as two bachelor of applied science programs. Courses are offered at the main campus in Clifton and at locations in Evendale, Harrison, Middletown, and elsewhere in Greater Cincinnati, and through online education. In addition to degree and certificate programs that provide academic credit, the College's Workforce Development Center offers continuing education opportunities through short courses, seminars, and on-site training programs for businesses and industries in the region.

Cincinnati State is accredited by the Higher Learning Commission, a regional accreditation agency recognized by the U.S. Department of Education ([hlcommission.org](http://hlcommission.org)) (<https://www.hlcommission.org/>) or 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604, phone 800-621-7440).

The College also holds numerous programmatic accreditations, listed in the Accreditation and Memberships (p. 342) section of this Catalog.

## Overview

### Collaborative Relationships

Cincinnati State has established academic partnerships with high schools, colleges, universities, and employers throughout the region.

Through Cincinnati State's relationship with the Ohio Department of Higher Education, the College maintains structured pathways to connect eligible high school students and graduates with college courses and degree and certificate programs. These college programs help the state achieve the goal of improving the educational attainment of Ohio citizens.

- Ohio's College Credit Plus program enables eligible high school students to take college courses while still in high school. Cincinnati State delivers many college courses at local high schools through a network of over 40 partner public and private high schools.
- Additionally, to strengthen pathways for students participating in career technical programs, Cincinnati State recognizes the state's Career-Technical Assurance Guides (CTAGs) which allow high school graduates to obtain college level transfer credit for knowledge and skill acquired in designated high school classes.

Cincinnati State also has established articulation agreements with the University of Cincinnati, Mount St. Joseph University, Northern Kentucky University, Xavier University, Miami University, and many other institutions to ease the transfer of graduates to specific degree programs in those institutions.

Cincinnati State is a member of the Greater Cincinnati Collegiate Connection (formerly the Greater Cincinnati Consortium of

Colleges and Universities). This membership allows students, under certain conditions, to take courses not offered at their home institution at any of the 13 member institutions. Students who would like more information about this program should contact the Office of the Registrar on Clifton Campus or by email at [registraroffice@cincinnati.edu](mailto:registraroffice@cincinnati.edu).

Cincinnati State also has a cross-registration agreement with the Army and Air Force ROTC at the University of Cincinnati. Army and Air Force personnel teach General Military Training classes. Enrollment in these classes entails no service obligation, and books and uniforms for the courses are provided free to students. Participants attend ROTC classes and drill periods on the University of Cincinnati's campus while attending academic classes at Cincinnati State. Details are available in the Office of Veteran Student Affairs at Cincinnati State, Room 135 Main Building, Clifton Campus.

## Cooperative Education

Since its founding in 1969, Cincinnati State has integrated work experience (typically co-op employment or clinical rotations) with academic coursework. Cincinnati State's consistently high graduate employment rate reflects the College's commitment to providing quality education enriched by on-the-job training. Students encounter "real-world" job demands, helping to clarify their career choices and promote responsibility in the workplace. Most co-op experiences are paid placements that permit students to earn while learning, and thus defray the total cost of their education. Some students complete unpaid internships or clinical assignments in health fields to gain experiential education.

The College has been recognized nationally for its extensive cooperative education program. More than 500 employers provide placements for degree-seeking Cincinnati State students who devote one or more semesters of their program of study to applying the knowledge they have acquired in the lab and in the classroom.

## Equal Opportunity

Cincinnati State is committed to a policy of equal educational opportunities for all persons regardless of race, age, handicap, sexual orientation, national origin, or gender. This policy is adopted as a matter of law and as a matter of educational policy consistent with the goals and purposes of the College.

The College also adheres to a policy of equal employment opportunity and affirmative action to end any illegal pattern of discrimination and to overcome the effects of past discrimination. Cincinnati State is also committed to serving the region's Armed Forces Veterans.

## Institutional Mission, Vision, Values, and Strategic Pillars

### Mission

Cincinnati State provides access, opportunity, and support in achieving success for individuals seeking exceptional technical, transfer and experiential/cooperative education and workforce training.

### Vision

Cincinnati State advances the educational and economic vitality of our state and region as the college of choice.

## Values

### Potential for Growth and Success

- We respect each student's background and celebrate their potential for personal growth and career success.

### Innovation

- We support innovative approaches to learning.
- We anticipate and effectively respond to the changing needs of those we serve.

### Collaboration

- We work together on behalf of our students and employers to meet community needs.

### Equity

- We believe in contributing to a socially and economically equitable society.
- We honor the diversity and inclusiveness of our College community and strive to hear all voices.

### Experiential Learning

- We promote experiential and lifelong learning.

## Strategic Pillars and Strategic Goals for 2025

### Achieving Academic Excellence

- Increase career technical education attainment to meet employer and community needs.
- Prepare students for successful transition to baccalaureate degrees.
- Provide all students with accessible and high-quality educational options.

### Enriching the Student Experience

- Tailor student support services to address unique needs and goals of each student.
- Enrich the campus life experience of students.

### Engaging the Community

- Identify, develop and establish programs and partnerships in response to emerging workforce and economic development needs.
- Expand and optimize our work with organizations that address poverty, social mobility and opportunity to increase educational access.
- Position and achieve significant recognition and support for Cincinnati State.

### Strengthening Our Future

- Increase headcount and credit hour enrollment.
- Achieve and maintain a level of fiscal health that allows for strategic investments in people, innovation and infrastructure, and a vibrant future.

- Anticipate evolving external factors such as technology, demographics, the economy and state support, and align plans and investments in people, programs, and facilities.

## History

### History of Cincinnati State

Cincinnati State can trace its origins to the Cincinnati Cooperative School of Technology (CCST), a two-year technical institute for high school graduates that was established by the Cincinnati Board of Education in 1966. The function of the school was to train technicians in a program combining college-level classroom instruction and cooperative work experience. This program operated in a portion of the facility at 3520 Central Parkway, which at the time was also the home to Courter Technical High School and former home to Central High School. In its first year, the college offered only four degree programs.

In 1969, the State of Ohio established Cincinnati Technical Institute to serve the post-secondary public technical education needs of the area. Clifford R. House was named first president of the college. The following year, the college entered into a contract with the Cincinnati Board of Education to purchase the Courter Technical High School property, where the College is located today. The name of the college was changed to Cincinnati Technical College (CTC) in 1972. Courter Tech continued to share the facility until the high school ended operations at the site in 1974.

In 1976, Frederick Schlimm succeeded Clifford House to become the second president of the institution, and over the next decade the College grew steadily. During Schlimm's tenure (1976-89), enrollment increased from 2,000 to more than 4,000 students, and the number of programs expanded from 35 to 45.

Dr. James Long became the third President of the college in 1990, and enrollment exceeded 5,000 students for the first time that year. At his recommendation, the Cincinnati Technical College Board of Trustees on July 27, 1993, voted to convert CTC to a state technical and community college. The name was officially changed to Cincinnati State Technical and Community College on September 1, 1994.

During the same month, the Health Professions Building (HPB) and Ludlow Parking Garage were opened, coinciding with the College's 25th anniversary. In May 1995, the State of Ohio approved the purchase of Cincinnati West Airport in Harrison, Ohio, to serve the aviation program at the College. An academic facility opened in 1998 at the airport.

On March 6, 1998, Dr. Ron Wright was formally inaugurated as the fourth president of the College. During his tenure, the College continued to grow. In 2000, the College purchased the Workforce Development Center (WDC) in Evendale to serve as a site for corporate training programs including computer skills, hazardous materials and industrial maintenance training.

In September 2003, a second parking garage (Central Parkway Garage) was opened to serve the increasing student population, which hit the 8,000 mark earlier that year. The Advanced Technology & Learning Center (ATLC) opened in November 2004, coinciding with the College's 35th anniversary. The building houses the Midwest Culinary Institute, multimedia production studios, information technologies labs,

student activities areas and other functions, and contains more than 200,000 square feet.

In 2007, Dr. John Henderson was appointed Interim President. The next year, Cincinnati State introduced a Renewable Energy and Energy Efficiency major. In April 2009, the College received a significant grant from the U.S. Department of Labor in order to expand the program. In September 2009, the College celebrated its 40th anniversary as enrollment surpassed 10,000 students for the first time.

In August 2010, the Board of Trustees appointed Dr. O'dell M. Owens to succeed Dr. Henderson. Dr. Owens – who at the time of his appointment was the Hamilton County Coroner – began his duties at Cincinnati State on September 1.

In November 2010 Cincinnati State set another enrollment record, with 11,421 total students. In April 2012 College officials signed an agreement with a private partner to rehabilitate an office building in downtown Middletown, Ohio, to serve as the base for a campus. The Middletown Campus opened August 29, 2012. That date also marked the start of the College's conversion to a semester-based academic calendar, ending its previous system of five academic terms per year.

In September 2014 the College marked its 45th anniversary with a week of Founders Days activities, including recognition of the faculty and staff members who served when the College began.

After Dr. Owens stepped down in September 2015, the Board of Trustees named then-Provost Dr. Monica Posey to serve as Interim President.

On June 13, 2016, the Board formally appointed Dr. Posey to become the sixth President of the College.

On December 4, 2019, the College was authorized by the Higher Learning Commission to offer two baccalaureate degrees: the Bachelor of Applied Science in Land Surveying, and the Bachelor of Applied Science in Culinary and Food Science. Cincinnati State is one of only four public community colleges in Ohio approved to launch baccalaureate degree programs.

Today, as the College celebrates its 50th anniversary, Cincinnati State offers more than 130 degree and certificate programs through its four academic divisions and the Workforce Development Center.

## Governance

### Board of Trustees

#### Mr. Mark D. Walton, Chair

Vice President & Community Affairs Director Greater Cincinnati Fifth Third Bank  
Term expires: August 31, 2020

#### Greg Battle

President/CEO  
Lean Continuous Improvements  
Term expires: August 31, 2022

#### Manuel Chavez III

Founder & CEO  
Bombe, Ltd.  
Term expires: August 31, 2024

#### Justin Howe

Senior Human Resources Manager for Digital Technology  
General Electric  
Term expires: August 31, 2022

#### Rajbir Minhas, M.D.

Physician  
Mercy Orthopedic and Spine/Pain Associates  
Term expires: August 31, 2024

#### Robert J. Ringel

Vice President, Legal & Assistant Corporate Secretary  
Duke Energy Corporation  
Term expires: October 31, 2020

#### John I. Silverman

Managing Principal  
Midland Atlantic  
Term expires: October 31, 2020

#### Barbara A. Turner

Vice Chairman & Chief Administrative Officer  
Ohio National  
Term expires: August 31, 2022

#### George H. Vincent

Managing Partner & Chairman  
Dinsmore & Shohl  
Term expires: October 31, 2024

## Faculty Senate

**President:** Lesli Rice, Business

**Vice President:** Stephanie Stafford, Humanities & Sciences  
Julianna Johns, Health & Public Safety

Dave Killen, Engineering & Information Technologies

Jon McKamey, Library/Counseling/Instructional Design

Barb Ratliff, Health & Public Safety

Ryan Shadle, Humanities & Sciences

Ralph Whaley, Engineering & Information Technologies

**Ex Officio, AAUP President:** Pam Ecker

**Ex Officio, Adjunct Faculty:** Deborah Smalley

## Accreditation and Memberships

### General Accreditation

- Higher Learning Commission ([hlcommission.org](http://hlcommission.org) (<https://www.hlcommission.org/>)), a regional accreditation agency recognized by the U.S. Department of Education (230 South LaSalle Street, Suite 7-500, Chicago, IL 60604, phone 800-621-7440).
- Ohio Department of Higher Education
- Division of Career-Technical Education, Ohio Department of Education

### Professional Accreditations

- Accreditation Commission for Education in Nursing
- Accreditation Council for Education in Nutrition and Dietetics
- Accreditation Council for Occupational Therapy Education
- Accreditation Commission for Education in Nursing
- Accreditation Review Council on Education in Surgical Technology and Surgical Assisting

- American Council for Construction Education
- Accreditation Council for Education in Nutrition and Dietetics
- American Culinary Federation Educational Foundation
- Association of Nutrition & Foodservice Professionals
- Commission on Accreditation of Allied Health Education Programs
- Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions
- Commission on Accreditation for Health Informatics and Information Management Education
- Commission on Accreditation for Respiratory Care
- Engineering Technology Accreditation Commission of ABET
- Federal Aviation Administration Approved Aircraft Maintenance Technician School
- International Association for Continuing Education and Training
- Joint Review Commission on Education in Diagnostic Medical Sonography
- Medical Assisting Education Review Board
- National Accrediting Agency for Clinical Laboratory Sciences
- National Association for the Education of Young Children
- National Association of Landscape Professionals
- Ohio Department of Education, Associate PreK Education Licensure Program
- Ohio Department of Public Safety, Department of Emergency Medical Services
- Ohio Division of Real Estate
- Ohio State Board of Nursing
- National Association of Landscape Professionals
- National Association of Student Financial Aid Administration
- National Council of Student Development
- National Council on Black American Affairs
- National Junior College Athletic Association
- National League for Nursing
- National Network of Health Career Programs in Two-Year Colleges
- North American Council of Automotive Teachers
- Northern Kentucky Chamber of Commerce
- Ohio Association of Community Colleges
- Ohio Association of Collegiate Registrars and Admission Officers
- Ohio Craft Brewers Association
- Ohio Mathematics Association of Two-Year Colleges
- Ohio Nursery and Landscape Association
- Ohio Partnership for Excellence (Ohio Baldrige Program)
- Ohio Society of Certified Public Accountants
- OhioLINK
- OHIONET
- Organization for Associate Degree Nursing
- Southwestern Ohio Council for Higher Education
- Southwest Ohio Neighboring Libraries
- U.S. Green Building Council
- World Affairs Council
- World Association of Cooperative Education

## Memberships

- Academy of Legal Studies in Business
- Academy of Nutrition and Dietetics
- American Association of Collegiate Registrars and Admission Officers
- American Association of Community Colleges
- American Culinary Federation
- American Society of Safety Engineers (ASSE)
- American Society of Allied Health Professionals
- American Technical Education Association
- Association for the Promotion of Campus Activities
- Association of Food and Nutrition Professionals
- Brewers Association
- CincinnatiUSA Chamber of Commerce
- Consortium of College and University Media Centers (CCUMC)
- Continuous Quality Improvement Network
- Cooperative Education Association
- Enterprise Ohio Network
- Greater Cincinnati Collegiate Connection
- Greater Cincinnati Retail Bakers Association
- InfoComm International
- Lambda Beta Honor Society for Respiratory Care
- Midwest Cooperative Education & Internship Association
- Midwest Institute for International/Intercultural Education
- National Association of College Admission Counseling
- National Association of College and University Business Officers

## Facilities

### Use of College Facilities

Students presenting a SurgeCard (p. 346) may use facilities such as the gymnasium, game room, fitness center, library, auditorium, and meeting rooms. Such use is restricted to hours set aside for student use for free time recreation. These hours will not conflict with previously scheduled events, and may be subject to change because of scheduling of intramurals, athletics, community use, or other purposes.

Students or student groups may lease on-campus facilities through the Facilities Office, phone (513) 569-4123 or email [eventscheduling@cincinnati.edu](mailto:eventscheduling@cincinnati.edu). The use of facilities is outlined in the Facility Usage and Rental Guidelines (<http://www.cincinnati.edu/about/administration/facilities/>) on the College website.

### Bakery Hill

Bakery Hill is a retail bakery on the second floor of the Advanced Technology & Learning Center (ATLC), Clifton Campus. Bakery Hill is operated by students and instructors at the College to gain educational and entrepreneurial experience. For more information about Bakery Hill, phone (513) 569-4697 or email [bakeryhill@cincinnati.edu](mailto:bakeryhill@cincinnati.edu).

### Bookstore

The Cincinnati State Bookstore is located in Room 134 of the Advanced Technology & Learning Center (ATLC), Clifton Campus. A complete supply of new texts and a limited supply of used books are available, covering all the courses offered at the College. A textbook rental program is available for some courses. The store also carries

classroom supplies, calculators, and course-related equipment and supplies, as well as Cincinnati State apparel and gifts.

Used books are purchased by the bookstore throughout the year; however, financial aid regulations apply to some sales of used books. Contact the store for additional information about the buyback program.

Books for which an exchange or refund is requested must be in resalable condition and accompanied by the original receipt. Full refunds are granted during the first two weeks of classes each semester. If a student drops a course and seeks a refund within the established time frame, the student must show bookstore personnel a copy of their drop/add form.

Regular hours of the store are Monday, 8 a.m. to 6:30 p.m., Tuesday through Thursday, 8 a.m. to 6 p.m., and Friday 8 a.m. to 2 p.m. Hours are extended during the beginning and end of each semester.

Forms of payment accepted include financial aid (during assigned dates), cash, check (with photo I.D.), Visa, MasterCard, Discover, American Express (cardholder must be present), and gift cards. All forms of payment except cash or check may also be used for online purchases on the Bookstore website [www.Cincystshop.com](http://www.Cincystshop.com) (<http://www.bkstr.com/Home/10001-10677-1/?demoKey=d>).

For more information about the Cincinnati State Bookstore, phone (513) 569-1507 or email [cincist@bkstr.com](mailto:cincist@bkstr.com).

## Child Care (Mallory Early Learning Center)

The William L. Mallory Early Learning Center is located on the fourth floor of the Main Building (Clifton Campus) and has a learning laboratory on the first floor of the Main Building. It provides outstanding childcare on Cincinnati State's campus while serving as a learning lab for Cincinnati State students in the Early Childhood Education program.

The Mallory Center daytime program is designed for children ages three months to five years who are not yet eligible for kindergarten. Priority is given to students and staff of the College, but the Center also serves families from the surrounding community.

The Mallory Center offers a full-time, year-round program operated Monday through Friday, 7 a.m. to 5:30 p.m. The Mallory Center is closed when the College is closed. During the summer, the Center also provides experiences for school-age children.

The Mallory Center participates in the USDA food program, providing breakfast, lunch, and snack, thus supplying two-thirds of a child's daily needs.

Parents are welcome and encouraged to visit their children at any time. There are observation booths for most of the classrooms if parents wish to observe without being seen. Parents are also welcome to help in the classroom by reading books, eating lunch, or going on field trips.

All student-child interactions are guided by the faculty of Cincinnati State's Early Childhood Education program. Center teaching staff members are selected for their commitment to providing the best experiences for children, and their ability to guide Cincinnati State students in becoming skilled Early Childhood Education teachers.

Children at the Mallory Center benefit from increased adult-child interactions, while Cincinnati State student interns benefit from direct experiences working with the children and teachers at the Center.

Teachers also have training in CPR, first aid, common childhood illnesses, and child abuse recognition. All staff and volunteers have been fingerprinted and have had a complete background check.

The Mallory Center is licensed by the City of Cincinnati's Department of Health and the State of Ohio's Department of Job and Family Services. It is accredited by the National Association for the Education of Young Children (NAEYC). The Mallory Center's commitment to quality care also is shown through voluntary participation in the Step up to Quality (STARS) rating system facilitated by the State of Ohio Department of Job and Family Services.

For more information about the Mallory Center, phone (513) 569-1504 or e-mail [MalloryELC@cincinnati.state.edu](mailto:MalloryELC@cincinnati.state.edu). ([malloryelc@cincinnati.state.edu](mailto:malloryelc@cincinnati.state.edu))

## Computers/Computer Labs

The College provides access to computers throughout the Clifton Campus in open labs, in the Library, and in student lounge areas. In addition, the entire Clifton Campus has wireless access that is free and open to Cincinnati State students, faculty, and staff. For more about the computers and computer labs, see Campus Technology (<http://www.cincinnati.state.edu/about/administration/technology/information-security/>) on the College website.

## Fitness Center

The Fitness Center in the Main Building (Clifton Campus) provides a full range of Nautilus equipment, free weights, cardio machines and resistance equipment, as well as a gymnasium (at designated times). The Fitness Center is continuously supervised by qualified personnel and fitness classes for students and employees are scheduled periodically.

A SurgeCard (ID card) is required for use of the Fitness Center and a liability waiver must be on file. Children, food and drinks, and loitering are not permitted in the Fitness Center. For more information regarding the Fitness Center, visit the College website: <https://www.cincinnati.state.edu/students/campus-life/recreation> (<https://www.cincinnati.state.edu/students/campus-life/recreation/>)

## Game Room

A Game Room is located on the lower level of the ATLC (Clifton Campus). Table tennis, billiards, board games, and equipment are available free with a SurgeCard. For more information about the Game Room please contact the Student Activities office, located in the ATLC, Room 204, or phone (513) 569-5747.

## Gymnasium

The gymnasium is located on the first floor of the Main Building (Clifton Campus). It is open at designated times for general use. A SurgeCard is required to check out equipment. No food or drink is allowed in the gym. Gym shoes must be worn when using the gymnasium (street shoes with soft soles are not permitted).



## Library

The Johnnie Mae Berry Library, named for the College's first librarian, provides library services to the College community. The Library is located in the Main Building (Clifton Campus), Room 170, phone (513) 569-1606. The library is open from 7:30 a.m. to 10 p.m. Monday through Thursday, 7:30 a.m. to 4 p.m. on Friday, and 8 a.m. to 4 p.m. on Saturday. Shortened hours occur during the Summer semester and during periods when classes are not in session.

The library's homepage is available at [www.cincinnati.state.edu/library](http://www.cincinnati.state.edu/library) (<http://www.cincinnati.state.edu/library/>).

Additional information about Library services is in the Student Services - Academic Support Services (p. 392) section of this Catalog.

## Lockers

The College Main Building (Clifton Campus) has a limited number of lockers available for student use. Students must provide their own locks. Cincinnati State assumes no responsibility for any loss, theft, or damage to lockers, locks, or contents due to fire, trespassers, or other reasons. Each year at the end of the Spring semester, students must remove locks and contents from their lockers so general cleaning and maintenance can be performed.

## Overlook Café

The Overlook Café is located on the first floor of the ATLC (Clifton Campus). Menu planning and food preparation is provided by Midwest Culinary Institute faculty chefs and students. The Overlook offers a wide selection of wholesome foods and refreshments, including hot breakfasts and daily lunch and dinner specials, soups, a custom deli station, a salad bar, and a full range of beverages and "grab and go" options.

Vending facilities are located on the second, third, and fourth floors of the ATLC, the first and third floor lounges in the Main Building, and on the second and third floors of the Health Professions Building. If necessary, refunds from vending facilities can be obtained from the cafeteria cashier.

## Parking/Transportation

Cincinnati State provides a variety of parking and transportation options for its students, faculty, and staff. The College strives to use its available parking resources for the benefit of students, employees, and visitors by ensuring that parking areas are safe and well-maintained, and by promoting transit, cycling, ride-sharing, and other alternatives.

## Metro Discount

Cincinnati State and Cincinnati Metro have partnered to offer students bus travel at significantly discounted rates. For \$1, Cincinnati State students can ride any Metro bus route, at any time, to any place Metro travels. Students must have a valid SurgeCard (ID card) to obtain a Metro discount card. To get a discount card, log into MyCState, choose MyServices, and click on the Metro Discount Card link under Transportation/Parking.

## Parking Facilities (Clifton Campus)

**Central Parkway Garage:** Central Parkway Garage is a covered parking facility, accessible from Central Parkway, designated for

students, visitors, faculty, and staff. The fee for using the Central Parking Garage is \$5 per use (using cash, credit, or debit) or unlimited use with a valid semester parking privilege (ProxCARD).

**Ludlow Garage:** Ludlow Avenue Garage is a covered parking facility, accessible from Ludlow Avenue, designated for students, faculty, and staff. The fee for using the Ludlow Parking Garage is \$5 per use (using cash, credit, or debit), or unlimited use with a valid semester parking privilege (ProxCARD).

**Lot A:** Lot A is located off of College Drive and is reserved for faculty and staff only. Employees must use their ProxCARD for entry and exit.

**Lot C:** Lot C is a daily rate and term privilege facility, accessible from Ludlow Avenue. The fee for using Lot C is \$5 per use (cash, credit, or debit) or unlimited use with a valid semester parking privilege (ProxCARD).

**Lot D:** Lot D is located at the top of College Drive near the Main Building, and is reserved for faculty and staff only. Employees must use their ProxCARD for entry and exit.

**Motorcycle/Bicycle Parking Areas:** Motorcycle parking is permitted in only one location, near the Main Building, at the top of College Drive. All motorcycles must be registered with the College's Police Department.

Bicycles must be secured to a bicycle rack; one is located by the entrance to the Ludlow Garage, another near the loading dock for the Main Building. Bicycles should not be chained to trees or light poles.

**Drop-off/Pick-up Area:** Several parking spaces in front of the Main Building have been designated for motorists to drop off or pick up passengers. Motorists must remain with their vehicle at all times.

## Parking Regulations

The regulations in this section were developed by the Cincinnati State Police Department, and approved by the College administration in accordance with the Ohio Revised Code. Questions about parking should be directed to the Campus Police Department at (513) 569-1558.

**Emergencies:** Individuals who need assistance from Campus Police should call (513) 569-1558. Emergency phones are located on the Clifton Campus near the parking areas and in the garages. These phones are monitored by Campus Police 24 hours a day, with assistance from campus police dispatch services at the University of Cincinnati.

Campus Police officers are available to assist students, employees, and visitors who accidentally lock their keys in the car, need a jump start, or need air for low or flat tires. Contact the Police Department at (513) 569-1558 for assistance.

**Citation Procedure:** College parking regulations are enforced by Campus Police. Any violations can result in a citation. Ignorance of College parking policy is not an excuse for operating or parking in violation.

- College citations must be paid or appealed within 10 business days from the date of issue. After that time, the ability to appeal is lost.
- Any citation not paid or appealed within 10 business days of issue will double in cost, and the vehicle involved is subject to impoundment.

- After 30 days from issue, unpaid citations are automatically added to the student's account.
- Repeated or serious violations could result in loss of campus parking privileges, towing of vehicle, and/or impoundment at the owner's expense.

Citations are payable at the Cashier's Office or by mail to: Cincinnati State, Cashier's Office, 3520 Central Parkway, Cincinnati, OH 45223.

Cincinnati State Police Officers may also issue state citations that are paid at the Hamilton County Justice Center.

**Citation Appeal Procedure:** Any ticket issued by Campus Police can be appealed by filling out the appeal form available from the Campus Police Department in the Main Building (Clifton Campus). The form must be completed and submitted within 10 business days after the ticket was issued. The findings of the Appeal Committee are final.

**Handicapped Parking:** Parking permits are available allowing use of the handicapped parking spaces. Both a state-issued license plate/plaque and a Cincinnati State parking permit are required. Contact Campus Police for details or call (513) 569-1558.

**Liability:** Cincinnati State assumes no responsibility for theft or damage to vehicles parked on College property.

**Parking Permit:** The purchase of a parking permit (Prox Card) does not guarantee the availability of a parking space and does not justify parking against College policy.

**Reserved Parking:** Some parking spots in Lot D are reserved for specific faculty and staff members and are marked with the individual's last name, either on an adjacent wall or on the parking stop at the front of the spot. These spots are reserved Monday through Friday from 6:30 a.m. to 4 p.m. Parking in a reserved spot during these hours will result in a parking citation. (Note: The College has discontinued the practice of reserved parking and does not issue new reserved parking spots to faculty and staff.)

**Visitor Parking:** Paid visitor parking is available in the Central Parkway and Ludlow Garages or in Lot C-1. These lots can be used by students registering for classes or visiting campus.

**Clifton Hills Residential Parking Ordinance:** On-street parking in the Clifton Hills neighborhood adjoining the Cincinnati State Clifton Campus is governed by a City of Cincinnati residential permit parking ordinance. Those who park in this area without a residential parking sticker on their vehicle are at risk for a \$50 parking ticket. The cost of that ticket doubles if the fine is not paid within seven days; a second offense within a year becomes a Class B Civil Offense carrying a \$100 fine.

These parking restrictions apply between 7 a.m. and 10 p.m. to Clifton Hills Avenue, Clifton Crest Terrace, and Clifton Hills Terrace, as well as portions of Ludlow Avenue and Old Ludlow Avenue marked by signs.

## Police

The Cincinnati State Campus Police Department has full police powers, and is a professional, fully-trained and equipped law enforcement agency.

Assistance for Cincinnati State Campus Police dispatch services is provided by the University of Cincinnati.

The Police Department is available to help with any questions. Students are invited to visit the Police Department in the Main Building on Clifton Campus.

For more information, contact Lt. Todd Halusek at [todd.halusek@cincinnatiastate.edu](mailto:todd.halusek@cincinnatiastate.edu) or (513) 569-5712.

## Surge Cards

Every student enrolled in classes is required to have a College identification card (SurgeCard) with them at all times for security purposes. The initial SurgeCard is free and is available from the Student Activities Office in ATLC Building Room 204 (Clifton Campus), after a student has registered for classes that semester.

The SurgeCard is required to use some campus services such as the Library, the Fitness Center, computer lab printing, and admission to College sports activities. Additional uses for the SurgeCard include the bookstore, food services, day care door access for qualified parents, and other services.

Every registered student receives a credit for \$15.00 on their SurgeCard each semester to be used for printing documents in College computer labs.

To replace a lost SurgeCard, go to the Cashier's office on the ATLC Building Second Floor (Clifton Campus) and pay a \$10.00 fee. Bring the receipt for this payment to the Student Activities Office and a replacement SurgeCard will be issued.

A SurgeCard is required to obtain information about available financial aid funds that can be used to purchase books in the College bookstore. Financial aid funds are never deposited on the SurgeCard.

More information about SurgeCards is available from the Student Activities Office, or phone (513) 569-5747.

# Admission Information\*

## Admission Overview

Cincinnati State is an open-access, public institution dedicated to the goal of providing each student the maximum opportunity to develop and learn. Individuals who are high school graduates or have a high school equivalence (GED) are eligible for admission to Cincinnati State.

### Campus Information and Visits

**Clifton Campus** - 3520 Central Parkway, Cincinnati, Ohio, 45223

- Please call (513) 861-7700, send e-mail to [adm@cincinnati-state.edu](mailto:adm@cincinnati-state.edu), or visit in person.
- Register for an Information Session using the [Visit Cincinnati State](http://www.cincinnati-state.edu/academics/admission/visit-cincinnati-state/) (<http://www.cincinnati-state.edu/academics/admission/visit-cincinnati-state/>) section of the College website.

**Middletown Campus** - 1 North Main Street, Middletown, Ohio, 45042

- Please call (513) 217-3700, send e-mail to [adm@cincinnati-state.edu](mailto:adm@cincinnati-state.edu), ([adm@cincinnati-state.edu](mailto:adm@cincinnati-state.edu)) or visit in person.
- Register for an Information Session using the [Visit Cincinnati State](http://www.cincinnati-state.edu/academics/admission/visit-cincinnati-state/) (<http://www.cincinnati-state.edu/academics/admission/visit-cincinnati-state/>) section of the College website.

**Harrison Campus** - 10030 West Road, Harrison, Ohio, 45030

- Please call (513) 861-7700, or send an email to [adm@cincinnati-state.edu](mailto:adm@cincinnati-state.edu).
- Register for an Information Session using the [Visit Cincinnati State](http://www.cincinnati-state.edu/academics/admission/visit-cincinnati-state/) (<http://www.cincinnati-state.edu/academics/admission/visit-cincinnati-state/>) section of the College website.

### Admission Process

Prospective students must complete an online Application for Admission (<https://apply.cincinnati-state.edu/>) and submit official transcript(s) of their educational progress to date. Applications for admission and supporting documents are processed as received. Cincinnati State supports an open access policy based on a three-semester rolling admission process. Applicants are admitted into a semester when all admission process steps have been completed.

Prospective students should begin the admission process approximately two months prior to the semester when they plan to begin classes. This timeline ensures students can complete all admission steps, including providing transcripts from other schools, processing financial aid requests, and obtaining academic advising and orientation. Applications and supporting documents are accepted after the priority application deadlines (below), but there is no guarantee that the process will be completed in time to begin classes immediately.

### Priority Application Deadlines

Fall Semester 2020 – July 1, 2020

Spring Semester 2021 – November 1, 2020

Summer Semester 2021 – March 1, 2021

Some academic programs reach their capacity early and those who are not admitted may be placed on a wait list. Some Health and Public Safety programs have selective admission processes that require additional steps.

### Please note the following:

- An Application for Admission is valid for one year.
- Required documents for admitted students are maintained for five years after the initial admission date.
- All documents submitted to the Office of Admission become the property of Cincinnati State and will not be returned, forwarded, or copied. If additional copies are needed, please request this information from the issuing institution.
- Non-degree-seeking students and applicants are not eligible to receive financial aid and do not qualify for Kentucky or Indiana tuition reciprocity.

## Application Process

### Application for Admission Requirements

#### First-Time Student requirements:

- Complete an online [Application for Admission](https://apply.cincinnati-state.edu/page_who_are_you.aspx) ([https://apply.cincinnati-state.edu/page\\_who\\_are\\_you.aspx](https://apply.cincinnati-state.edu/page_who_are_you.aspx)).
- Submit an official high school transcript. The transcript must be mailed directly to the Office of Admission from the institution. Hand-carried, emailed, or faxed copies are not accepted. High school seniors may submit a high school transcript before graduation, but must also submit an official final transcript after graduation.
- Applicants who are not high school graduates must submit a state-approved alternative to high school graduation, such as scores from the General Educational Development (GED) test. This document may be sent by postal mail, email, or fax, or may be hand-carried to the Office of Admission.
- Applicants who have completed college work at a regionally accredited higher education institution must also submit an official transcript. The transcript must be mailed directly to the Office of Admission from the institution. If a degree is earned from a regionally accredited college or university, the high school transcript is waived.
- A \$15 non-refundable admission fee is charged to the student's first registration bill. Cincinnati State does not charge a fee when the admission application is submitted.

#### Home-Schooled Student requirements:

- Complete an online [Application for Admission](https://apply.cincinnati-state.edu/page_who_are_you.aspx) ([https://apply.cincinnati-state.edu/page\\_who\\_are\\_you.aspx](https://apply.cincinnati-state.edu/page_who_are_you.aspx)).
- Submit a notarized letter from the parent detailing the duration and the content of the student's home-school experience.
- Submit a diploma and transcript from a recognized home-schooling association or a state diploma based on the GED.
- Applicants who have completed college or university work at a regionally accredited institution must also submit an official transcript. The transcript must be mailed directly to the Office

of Admission from the institution. If a degree is earned, the high school transcript is waived.

- A \$15 non-refundable admission fee is charged to the student's first registration bill. Cincinnati State does not charge a fee when the admission application is submitted.

#### International Student requirements:

Non-U.S. citizens who have been granted the status of immigrant, permanent resident, or refugee by the Bureau of Citizenship and Immigration Services may be admitted on the same basis as U.S. citizens.

- International students must meet the College admission requirements of U.S. citizens, including completing an online [Application for Admission \(https://apply.cincinnati-state.edu/page\\_who\\_are\\_you.aspx\)](https://apply.cincinnati-state.edu/page_who_are_you.aspx).
- International students must provide a copy of immigration status (i.e., permanent resident card, visa, I-94, etc.) for the application to be processed.
- International students applying for F-1 visas should apply at least two months before they intend to begin classes at Cincinnati State, and should also:
  - Provide proof of proficiency with the English language with a minimum TOEFL score of 500 (paper) or 61 (Internet-based), sent directly to Cincinnati State from the Educational Testing Service. Cincinnati State's school code is 1984.
  - Submit an English translation of high school transcripts and/or diploma.
  - If transferring college/university coursework from outside the U.S., student transcript(s) must be translated and evaluated by an official Credential Evaluation Service.
  - Provide proof of adequate financial support. It is estimated that international students need a minimum of \$43,000 for two years for tuition, books, living expenses, and miscellaneous expenses. There are no scholarships or educational loans available for international students. Submission of a signed and officiated Certification of Finances Form, sent to the attention of the International Student Advisor, is required to verify the availability of sufficient funds to cover the cost of the education while attending Cincinnati State.
- A \$15 non-refundable admission fee is charged to the student's first registration bill. Cincinnati State does not charge a fee when the admission application is submitted.

After receipt of the above-mentioned documents, and consequent offer of admission, all international students must submit a \$5,000 advance tuition deposit fee to the Cincinnati State Cashier's Office.

- This deposit is credited to the individual's account and used only for payment of tuition and fees.
- The fee covers approximately one semester of tuition. The student must provide for all other expenses, including room, board, books, transportation, and incidental expenses.

Only certain international student visas are eligible for financial aid. Please see the [Office of Financial Aid \(http://www.cincinnati-state.edu/academics/financial-aid/\)](http://www.cincinnati-state.edu/academics/financial-aid/) section of the College website to determine eligibility.

An I-20 Form is issued to the student only after the steps described above are completed. For additional information regarding

international admission, contact the International Student Advisor at (513) 569-1543, or review the [International Students \(http://www.cincinnati-state.edu/academics/admission/admission-overview/international-students/\)](http://www.cincinnati-state.edu/academics/admission/admission-overview/international-students/) section of the College website.

#### International Student - Demonstrating English Proficiency

To demonstrate English proficiency, international students must meet one of the following criteria:

- Provide **U.S. High School diploma** showing a minimum 2.0 cumulative GPA
- Provide **proof of completion of secondary school in an English-speaking country** (see list of qualifying countries in the International Students section of the College website)
- Submit official transcripts verifying **successful completion of any college level English course with a grade of C or higher** from a regionally accredited U.S. college or university. This does not include ESL coursework.
- Submit **Test of English as a Foreign Language (TOEFL)** scores that are less than two years old, with a minimum score of 500 (Paper), 173 (Computer) or 61 (Internet-based). The Educational Testing Service school code for Cincinnati State is 1984.
- Submit **International English Language Testing System (IELTS) scores** that are less than two years old, with a minimum overall score of 5.0.
- Submit **ACCUPLACER scores** that are less than two years old, with minimum score of 4 on WritePlacer

Exemption from the Cincinnati State English Composition requirement is determined by the Office of Admissions, the International Student Affairs Office, and the Academic Divisions.

#### Non-Degree Seeking Student requirements:

Students who are not seeking a degree or certificate should complete the online Application for Admission as a Non-Degree applicant. Non-degree seeking students are not eligible for financial aid or Indiana or Kentucky Reciprocity. Once admitted, students may register for classes online, in person, or via email through the Registrar's Office. For more information see the Non-Degree Seeking & Visiting Students (<https://www.cincinnati-state.edu/visiting/>) section of the College website.

#### Returning Student requirements:

Students who have been admitted to Cincinnati State in the past, but have not enrolled in classes for one year or more, should follow these procedures:

- Resubmit an Application for Admission
- Request and submit to Cincinnati State official undergraduate transcripts from each regionally accredited college attended since leaving Cincinnati State. These transcripts must be mailed directly to the Office of Admission from the institution.
- Applicants may be asked to resubmit high school or college transcripts since the Admission Office is required to maintain documents for only five years after the initial admission to the College. Documents for graduates of Cincinnati State are maintained.

- A \$15 non-refundable admission fee is charged to the student's first registration bill. Cincinnati State does not charge a fee when the admission application is submitted.

## Cincinnati State Account Information and Next Steps

When a student applies to the College, a Student Network Access email will be sent to the applicant within 24 hours of submitting the application. This email message contains the applicant's user identification, SurgeMail email account, and College ID number. The message also contains links to instructions for creating a password. Applicants will also be given instructions to log in to their MyCState account to check on the status of their admission and financial aid.

Upon acceptance to the College, students are asked to schedule appointments for required advising and orientation with the applicable academic division.

## College Credit Plus

### College Credit Plus

The College Credit Plus (CCP) Program at Cincinnati State gives students in grades 7 through 12 the opportunity to earn college credit at little to no cost prior to graduating from high school. The program promotes rigorous academic pursuits and provides a variety of options for eligible college-ready high school students to get an early start toward completing a college degree.

Through the CCP program, public school students may take Cincinnati State courses with no cost for tuition, books, or fees.

Students from private schools and homeschools participating in CCP may have limited costs. Students from private schools and homeschools must apply to the Ohio Department of Education to receive funding to underwrite their costs; otherwise, Cincinnati State may bill students for courses registered.

Qualified students may take college courses:

- In the high school classroom, taught by a high school teacher who has been approved to teach the college course
- At any Cincinnati State campus location, taught by Cincinnati State faculty
- Online, taught by Cincinnati State faculty

College courses taken as a CCP student earn college credit at Cincinnati State as well as high school credit applicable toward high school graduation. Upon graduation from high school, students can continue their education at Cincinnati State to complete an associate's degree or certificate program, or transfer college credits earned to another college or university.

### Program Eligibility

Cincinnati State adheres to the Admission and Eligibility requirements of the Ohio Department of Higher Education College Credit Plus program.

- Students must be Ohio residents to participate in the CCP program. Public school students must be enrolled in a high school in Ohio and the school must be able to receive "foundation" funding for that student's enrollment.

- Any student interested in enrolling in a public college or university must be considered a resident of Ohio as defined in state law.
- All students must apply for admission to Cincinnati State following the CCP Application process.
- All students seeking to participate in CCP must be academically assessed to determine readiness to participate. Readiness is determined after review of an assessment exam such as ACT, SAT, or Accuplacer.

High School counselors help students understand available CCP options, deadlines, and how to proceed. Students eligible for CCP must apply for admission to the College and must work with a CCP advisor at the College to discuss course placement options.

Prior to applying to the College, public school students who intend to participate in CCP must file a Letter of Intent with their local school district. The letter must be filed each academic year by April 1.

Private high school and homeschool students are eligible to participate in the CCP program and receive state funding under certain circumstances.

- Students attending a private high school and homeschool students must apply to the Ohio Department of Education to receive funding to underwrite their costs. Students who are eligible for CCP support are funded for a specific number of credit hours as determined by a state-provided formula.
- The families of students who register for additional credit hours are responsible for tuition and fees that exceed the approved number of credit hours.

While non-Ohio residents cannot participate or receive CCP funding, they may be able to enroll in College courses as Non-Degree Seeking students, at the applicable non-resident or international tuition rate. For more information, contact the College Office of Admission at (513) 861-7700.

### For additional CCP information:

- For students taking courses on the College campus, contact the Office of Admission at (513) 861-7700.
- For students taking courses at partner high schools, contact the Off-Campus Programs office at (513) 569-4988.

## Institutional Transfer

### State of Ohio Policy for Institutional Transfer

**Note: The following information is the policy statement of the Ohio Department of Higher Education, published at <https://www.ohiohighered.org/transfer/policy/appendices> (<https://www.ohiohighered.org/transfer/policy/appendices/>) in Appendix F.**

The Ohio Department of Higher Education in 1990, following a directive of the 118<sup>th</sup> Ohio General Assembly, developed the Ohio Articulation and Transfer Policy to facilitate students' ability to transfer credits from one Ohio public college or university to another in order to avoid duplication of course requirements. A subsequent policy review and recommendations produced by the Articulation and Transfer Advisory Council in 2004, together with mandates from the 125<sup>th</sup> Ohio General Assembly in the form of Amended Substitute House Bill 95, have prompted improvements of the original policy. Additional

legislation from the 125<sup>th</sup> Ohio General Assembly also initiated the development of a statewide system for articulation agreements among state institutions of higher education for transfer students pursuing teacher education programs.

Action by the 126<sup>th</sup> Ohio General Assembly led to the establishment of criteria, policies, and procedures for the transfer of technical courses completed through a career-technical education institution; and standards for the awarding of college credit based on Advanced Placement (AP) test scores.

Legislation from the 130<sup>th</sup> Ohio General Assembly required public institutions of higher education to: use baseline standards and procedures in the granting of college credit for military training, experience, and coursework; establish an appeals process for resolving disputes over the awarding of credit for military experience; provide specific assistance and support to veterans and service members; adopt a common definition of a *service member* and *veteran*; and establish a credit articulation system in which adult graduates of public career-technical institutions who complete a 900 clock-hour program of study and obtain an industry-recognized credential approved by the Chancellor shall receive 30 college technical credit hours toward a technical degree upon enrollment.

While all public colleges and universities are required to follow the Ohio Articulation and Transfer Policy, independent colleges and universities in Ohio may or may not participate in the Transfer Policy. Therefore, students interested in transferring to independent institutions are encouraged to check with the college or university of their choice regarding transfer agreements. In support of improved articulation and transfer processes, the Ohio Department of Higher Education has established an articulation and transfer clearinghouse to receive, annotate, and convey transcripts among public colleges and universities. This system is designed to provide standardized information and help colleges and universities reduce undesirable variability in the transfer credit evaluation process.

## Acceptance of Transfer and Articulated Credit

To recognize courses appropriately and provide equity in the treatment of incoming transfer students and students native to the receiving institution, transfer credit will be accepted for all successfully completed college-level courses completed in or after Fall 2005 from Ohio public institutions of higher education. Students who successfully completed Associate of Arts (AA) or Associate of Science (AS) degrees prior to Fall 2005 with a 2.0 or better overall grade-point average would also receive credit for all college-level courses they have passed. While this reflects the baseline policy requirement, individual institutions may set equitable institutional policies that are more accepting.

Pass/Fail courses, credit-by-examination credits, experiential learning courses, and other non-traditional credit courses that meet these conditions will also be accepted and posted to the student record.

## Application of Transfer and Articulated Credit

*Application of credit* is the decision process performed by the receiving institution to determine how the credits it has accepted and recorded on the student's official academic transcript will or will not apply toward

program and degree requirements. While the receiving institution makes this decision, it will do so within the parameters of this Policy.

The following guidelines and requirements shall govern the application of transfer and articulated credit:

## Ohio Transfer Module

The Ohio Department of Higher Education's Articulation and Transfer Policy established the Ohio Transfer Module, which may be a subset or the entire set of a public higher education institution's general education curriculum in Associate of Arts (AA), Associate of Science (AS) and baccalaureate degree programs. Students in applied associate degree programs may complete some individual Ohio Transfer Module courses within their degree program or continue beyond the degree program to complete the entire Transfer Module. The Ohio Transfer Module contains 36-40 semester or 54-60 quarter hours of course credit in English composition (minimum of 3 semester or 5 quarter hours); mathematics, statistics and logic (minimum of 3 semester or 3 quarter hours); arts and humanities (minimum of 6 semester or 9 quarter hours); social and behavioral sciences (minimum of 6 semester or 9 quarter hours); and natural sciences (minimum of 6 semester or 9 quarter hours). Oral communication and interdisciplinary areas may be included as additional options. Additional elective hours from among these areas make up the total hours for a completed Ohio Transfer Module. Courses for the Ohio Transfer Module should be 100- and 200-level general education courses commonly completed in the first two years of a student's course of study. Each public university and technical and community college is required to establish and maintain an approved Ohio Transfer Module.

Ohio Transfer Module course(s) or the full module completed at one college or university will automatically meet the requirements of individual Ohio Transfer Module course(s) or the full Ohio Transfer Module at another college or university once the student is admitted. Students may be required, however, to meet additional general education requirements at the institution to which they transfer. For example, a student who completes the Ohio Transfer Module at Institution S (sending institution) and then transfers to Institution R (receiving institution) is said to have completed the Ohio Transfer Module portion of Institution R's general education program. Institution R, however, may have general education courses that go beyond its Ohio Transfer Module. State policy initially required that all courses in the Ohio Transfer Module be completed to receive its benefit in transfer. However, subsequent policy revisions have extended this benefit to the completion of individual Ohio Transfer Module courses on a course-by-course basis.

## Transfer Assurance Guides

Transfer Assurance Guides (TAGs) comprise Ohio Transfer Module courses and additional courses required for an academic major called TAG courses. A TAG is an advising tool to assist Ohio university and community and technical college students in planning for specific majors and making course selections that will ensure comparable, compatible, and equivalent learning experiences across Ohio's public higher education system. A number of area-specific TAG pathways in meta-majors including the arts, humanities, business, communication, education, health, mathematics, sciences, engineering, engineering technologies, social sciences, and foreign languages have been developed by faculty teams.

TAGs empower students to make informed course selection decisions and plans for their future transfer. Advisors at the institution to which a

student wishes to transfer should also be consulted during the transfer process. Students may elect to complete the full TAG or any subset of courses from the TAG. Because of specific major requirements, early identification of a student's intended major is encouraged.

## Career-Technical Assurance Guides

Collaboration among the Ohio Department of Higher Education, the Ohio Department of Education, and other key stakeholders led to the development of policies and procedures to create statewide career-technical discipline specific articulation agreements and further ensure that students completing coursework at an adult or secondary career-technical institution can articulate and transfer agreed-upon technical courses/programs to any Ohio public institution of higher education and among Ohio public institutions of higher education "without unnecessary duplication or institutional barriers."

Career-Technical Assurance Guides (CTAGs) are statewide articulation agreements that guarantee the recognition of learning which occurs at public adult and secondary career-technical institutions and have the opportunity for the award of college credit toward technical courses/programs at any public higher education institution. CTAGs serve as advising tools, identifying the statewide content guarantee and describing other conditions or obligations (e.g., program accreditation or industry credential) associated with the guarantee.

## Military Transfer Assurance Guides

In response to the legislative requirement (Ohio Revised Code 3333.164) to create a military articulation and transfer assurance guide for college-level learning that took place through military training, experience, and coursework, college credit will be granted to students with military training, experience, and/or coursework that is recognized by the American Council on Education (ACE) or a regionally accredited military institution, such as Community College of the Air Force

In order to streamline the awarding, transferability, and applicability of college credit, service members and veterans are guaranteed to earn certain types of credit(s) or course(s) as specified in the Military Transfer Assurance Guides (MTAGs), which are based on the endorsed baseline standards and procedures by the Chancellor. Equivalent course(s), credits for courses, or block of credit is to be awarded and applied towards general education and/or major course requirements at the receiving institution in accordance with the MTAG guarantee. There is some training, experience, and coursework that the receiving institution may be able to award college credit only toward general or free electives.

In addition, public institutions of higher education shall ensure that appropriate equivalent credit is awarded for military training, experience, and coursework that meet the baseline standards and procedures according to the Ohio Revised Code 3333.164. This requirement goes beyond credit/course awarded based on the MTAG alignment process.

## Apprenticeship Pathway Programs

The Apprenticeship Pathways initiative advocates for individuals completing apprenticeships by incorporating their learning into academic credit, thereby saving them time and money and encouraging them to advance their academic credentials to contribute to a strong, educated workforce.

Ohio apprenticeship programs partner with public two-year institutions to provide technology-specific statewide articulation agreements that

recognize non-traditional prior learning. College credit is awarded toward a technical associate degree. Each agreement simplifies student advising by outlining how apprenticeship training in a certain pathway applies to an applied associate degree and lists remaining courses required to complete the degree. The application of the credit toward a technical associate degree in these agreements is guaranteed at the participating receiving institutions.

## Advanced Placement (AP) Exams

The State of Ohio, working with public institutions of higher education, has initiated policies to facilitate the ease of transition from high school to college, as well as between and among Ohio's public colleges and universities.

Beginning in the Fall term 2009:

1. Students obtaining an appropriate Advanced Placement (AP) exam score will be awarded the aligned course(s) and credits for the AP exam area(s) successfully completed.
2. General Education courses and credits received will be applied towards graduation and will satisfy a general education requirement if the course(s) to which the AP area is equivalent fulfill(s) a requirement.
3. If an equivalent course is not available for the AP exam area completed, elective or area credit will be awarded in the appropriate academic discipline and will be applied towards graduation where such elective credit options exist within the academic major.

In academic disciplines containing highly dependent sequences (Sciences, Technology, Engineering and Mathematics – STEM) students are strongly advised to confer with the college/university advising staff to ensure they have the appropriate foundation to be successful in advanced coursework within the sequence.

## Conditions for Transfer Admission

1. Graduates with associate degrees from Ohio's public institutions of higher education and a completed, approved Ohio Transfer Module shall be admitted to a public institution of higher education in Ohio, provided their cumulative grade-point average is at least 2.0 for all previous college-level courses. Further, these students shall have admission priority over graduates with an out-of-state associate degree and other transfer students with transferable and/or articulated college credit.
2. Associate degree holders who have not completed the Ohio Transfer Module from an Ohio public institution of higher education will be eligible for preferential consideration for admission as transfer students as long as the institution's admission criteria, such as the minimum academic standards, space availability, adherence to deadlines, and payment of fees, are fairly and equally applied to all undergraduate students.
3. In order to encourage completion of the baccalaureate degree, students who are not enrolled in or who have not earned an degree but have earned 60 semester/90 quarter hours or more of credit toward a baccalaureate degree with a cumulative grade-point average of at least a 2.0 for all previous college-level courses will be eligible for preferential consideration for admission as transfer students as long as the institution's admission criteria, such as the minimum academic standards, space availability, adherence to deadlines, and payment of fees, are fairly and equally applied to all undergraduate students.

4. Students who have not earned an associate degree or who have not earned 60 semester/90 quarter hours of credit with a grade-point average of at least a 2.0 for all previous college-level courses will be eligible for admission as transfer students on a competitive basis.
5. Incoming transfer students admitted to a college or university shall compete for admission to selective programs, majors, and units on an equal basis with students native to the receiving institution.

The admission of transfer students by an institution, however, does not guarantee admission to any majors, minors, or fields of concentration at the institution. Some programs have additional academic and non-academic requirements beyond those for general admission to the institution (e.g., background check, a grade-point average higher than a 2.0, or a grade-point average higher than the average required for admission to the institution). Once admitted, transfer students shall be subject to the same regulations governing applicability of catalog requirements as native students. Furthermore, transfer students shall be accorded the same class standing and other privileges as native students on the basis of the number of credits earned. All residency requirements must be completed at the receiving institution.

## Responsibilities of Students

To maximize transfer credit application, prospective transfer students must take responsibility for planning their course of study to meet both the academic and non-academic requirements of the institution to which they desire to articulate or transfer credit as early as possible. The student is responsible to investigate and use the information, advising, and other available resources to develop such a plan. Students should actively seek program, degree, and transfer information; meet with an advisor from both the current and receiving institutions to assist them in preparing a course of study that meets the academic requirements for the program/degree to which they plan to transfer; use the various electronic course/program transfer and applicability database systems, including Ohio Transfer to Degree Guarantee web resources; and select courses/programs at their current institution that satisfy requirements at the receiving institution to maximize the application of transfer credit. Specifically, students should identify early in their collegiate studies an institution and major to which they desire to transfer. Furthermore, students should determine if there are foreign language requirements or any special course requirements that can be met during the freshman or sophomore year. This will enable students to plan and pursue a course of study that will better articulate with the receiving institution's major.

## Appeals Process

Following the evaluation of a student transcript from another institution, the receiving college institution will provide the student with a Statement of Transfer and Articulated Credit Applicability (Degree Audit Report). A student disagreeing with the application of transfer and/or articulated credit by the receiving institution must file his/her appeal in writing within ninety (90) days of receipt of the Statement of Transfer and Articulated Credit Applicability. The institution shall respond to the appeal within thirty (30) days of the receipt of the appeal at each appeal level.

## Student Complaints Following Transfer Appeals at the Receiving Institution

After a student exhausts the appeals process at the receiving institution and chooses to pursue further action, the Ohio Department

of Higher Education (ODHE) responds to formal written complaints related to Ohio Articulation and Transfer Policy against public, independent non-profit, and proprietary institutions of higher education in Ohio. While the ODHE has limited authority over colleges and universities and cannot offer legal advice or initiate civil court cases, staff will review written complaints submitted through its established process and work with student complainants and institutions.

## Cincinnati State's Policy for Transfer of Credit

The Cincinnati State Policy for Transfer of Credit is in compliance with the Ohio Department of Higher Education Transfer and Articulation Policy.

Coursework earned at a regionally-accredited institution of higher education with a grade of D or better will be accepted as transfer credit. Courses completed prior to Fall 2005 at a regionally accredited institution in which a passing grade of C was earned are also transferable.

Students who successfully completed an associate's degree or higher-level degree at a regionally-accredited institution prior to Fall 2005 with a 2.0 or better overall grade point average also receive credit for all college-level courses they passed. After the evaluation of transfer work is complete, the student receives by email a Transfer Evaluation Report, which lists all credits awarded in transfer and the equivalent Cincinnati State courses that have been assigned. In the event no equivalent course at Cincinnati State can be assigned, the transfer course is accepted as elective credit. Whether the courses accepted as elective credit are applicable to the student's degree or certificate program is at the discretion of the program chair or academic advisor. At the same time the Transfer Evaluation Report is provided, the student will be informed of the College's appeals process.

In situations where coursework is five years old or older, or where requisite skills may have been lost, courses previously taken at other institutions are subject to review by the faculty and dean of the division that offers the equivalent course(s). Those courses reviewed that do not meet current program requirements and standards will not count toward degree or certificate requirements.

Transfer credit accepted at Cincinnati State appears on a student's transcript as a cumulative number of hours accepted.

## Cincinnati State Transfer Module Appeal Process

If a student transferring into Cincinnati State is dissatisfied with the credit awarded as part of the Transfer Module program of the State of Ohio, an internal appeal process and an external appeal process are both available.

The internal appeal process must be utilized first. At Cincinnati State, the internal appeal process for a student dissatisfied with credit awarded as part of the Transfer Module program is the College Academic Appeals Procedure, described elsewhere in this catalog.

The external appeal process may be utilized only after the internal appeal process has been completed and the student remains dissatisfied with the College's award of credit. The external appeal will be conducted by the Statewide Appeals Review Committee. More information is available from the Ohio Department of Higher



Education at <https://www.ohiohighered.org/students/complaints> (<https://www.ohiohighered.org/students/complaints/>).

## Testing Center

The Testing Center provides a secure and quiet testing environment for assessment and offers testing for placement, certification, and accommodated exams.

- The Testing Center is located on Clifton Campus in Main 176.
- The Middletown Campus offers assessments including ACCUPLACER, ESL, and Smarter Measure.
- Students are encouraged to make an appointment to test using the Testing Center (<https://www.cincinnati.edu/academics/admission/placement-testing/>) section of the College website.

## ACCUPLACER

The ACCUPLACER “Next Generation” test may be used to assist placement of students in general education (math and English Composition) courses. Students may take the ACCUPLACER test at the Clifton or Middletown campus. The test also may be taken online or at an approved proctored location.

- Visit the Testing Center (<https://www.cincinnati.edu/academics/admission/placement-testing/>) section of the College website to schedule a testing appointment and to review sample questions for test preparation.
- Before scheduling a testing appointment, the individual must be a Cincinnati State applicant or current student.
- See Testing Accommodations below if applicable.

## English as a Second Language Assessment

Students whose first language is not English are encouraged to take Cincinnati State’s ACCUPLACER: ESL test (<https://www.cincinnati.edu/students/student-support/tutoring/esl-classes/>), which includes listening, reading, WritePlacer ESL (if required), and math.

## Microsoft Office Specialist Exam

The Microsoft Office Specialist (MOS) certification is for individuals looking to increase their competence, productivity, and credibility with their colleagues and clients in today’s competitive job market, by demonstrating proficiency using Microsoft Office software programs.

This test is open to the public and is administered in the Testing Center on Clifton Campus. Students interested in this certification should:

- Create an account and purchase a test voucher through Certiport (<http://certiport.com/>) for the desired test
- Complete the Proctor Fee Payment Form ([https://mycstate.cincinnati.edu/modules/\\_3002\\_1/Proctor%20Fee%20Payment%20and%20Receipt%20Form.pdf](https://mycstate.cincinnati.edu/modules/_3002_1/Proctor%20Fee%20Payment%20and%20Receipt%20Form.pdf)) and take it to the Cashier’s window (ATLC Building 2nd floor, Clifton Campus)
- Register (<https://www2.registerblast.com/CincinnatiState/Exam/List/>) for a test day and time

## Proctoring Service

Testing services are available to accommodate students who need a secure place to take a distance learning examination. Examinees who are interested in scheduling a test at the Testing Center should first contact their college or university for approval and then call (513) 569-1569 to schedule a testing time.

## Smarter Measure Assessment

Smarter Measure is a keyboarding assessment tool. The results assist advisors with placement into courses that require keyboarding skills.

## Testing Accommodations

If you are a student who has disabilities or believe you have disabilities, we encourage you to contact the Cincinnati State Office of Disability Services (<https://www.cincinnati.edu/students/student-support/disability-services/>) at (513) 569-1775 prior to testing to make arrangements for necessary accommodations.

# Financial Information\*

## Setting the cost of attending Cincinnati State

The Ohio Department of Higher Education provides a “state share of instruction” subsidy to Cincinnati State for each Ohio resident enrolled at the College, along with other types of financial support.

However, the total revenues received from the state are less than half of the College’s annual operating costs. The balance must come from tuition, fees, and other sources.

Like most institutions of higher education, Cincinnati State charges a higher tuition rate to out-of-state students since the College does not receive a subsidy to help support the costs for their education.

However, residents of Kentucky and Indiana who live within commuting distance of Cincinnati State can obtain in-state tuition rates for most academic programs, as a result of reciprocity agreements that have been negotiated with government officials in those states. Additional information about these agreements is in the Residency (p. 354) section of this catalog.

## Making college affordable

The Cincinnati State Office of Financial Aid assists in making college affordable, by helping current and prospective students learn about and apply for available grants, scholarships, loans, and work-study programs.

To contact the Financial Aid Office on Clifton Campus:  
Phone: (513) 569-1530  
Email: fam@cincinnati-state.edu

## Residency

### General Guidelines Defining Ohio Residency

The following persons are classified as residents of the State of Ohio for tuition surcharge purposes. (Documentation supporting the student’s request for classification as an Ohio resident is required.)

1. A dependent student, at least one of whose parents or legal guardian has been a resident of the State of Ohio for all other legal purposes for 12 consecutive months or more immediately preceding the first-time enrollment of such student in an institution of higher education.
2. A person who has been a resident of Ohio for the purpose of this rule for at least 12 consecutive months immediately preceding his or her first-time enrollment in an institution of higher education and who is not receiving, and had not directly or indirectly received in the preceding 12 consecutive months, financial support from other persons or entities who are not residents of Ohio for all other legal purposes.
3. A dependent child of a parent or legal guardian, or the spouse of a person who, as of the first day of the semester of enrollment, has accepted full-time, self-sustaining employment and established domicile in the State of Ohio for reasons other than gaining the benefit of favorable tuition rates. Documentation is required.

Residency status is lost immediately if the employed person upon whom resident student status was based accepts employment and establishes domicile outside of Ohio less than 12 months after accepting employment and establishing domicile in Ohio.

4. A person who is living and is gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who is pursuing a part-time program of instruction at an institution of higher education shall be considered a resident of Ohio for tuition surcharge purposes.
5. A person who enters and currently remains on active duty status in the United States military service while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio as long as Ohio remains the state of such person’s domicile.
6. A person on active duty status in the United States military service who is stationed and resides in Ohio and his or her dependents shall be considered residents of Ohio.

A dependent person classified as a resident of Ohio for these purposes as a result of (1) listed above and who is enrolled in an institution of higher education when his/her parents or legal guardian removes their residency from the State of Ohio shall continue to be considered a resident during continuous full-time enrollment and until his or her completion of any one academic program.

In considering residency, removal of the student or the student’s parents or legal guardian from Ohio shall not, during a period of 12 months following such removal, constitute relinquishment of Ohio residency status otherwise established under items (1) or (2) listed above.

A person transferred by his or her employer beyond the territorial limits of the 50 states of the United States and the District of Columbia while a resident of Ohio for all other legal purposes, and his or her dependents, shall be considered residents for these purposes as long as Ohio remains the state of such person’s domicile and as long as such person has fulfilled his or her tax liability to the State of Ohio for at least the tax year preceding enrollment.

A person who has been employed as a migrant worker in the State of Ohio and his or her dependents shall be considered a resident for these purposes provided such person has worked in Ohio for at least four months during each of the three years preceding the proposed enrollment.

Any person classified as a non-resident who wishes to be considered for resident status must apply to the institution he or she attends for reclassification as a resident of Ohio. Should such a person present clear and convincing proof that no part of his or her financial support is or in the preceding 12 months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such a person shall be reclassified as a resident.

Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of such reclassification. Evidentiary determinations under this rule shall be made by the institution, which will require the submission of documentation regarding the sources of a student’s actual financial support and other documentation. Criteria which may be considered in determining residency for tuition purposes may include, but are not limited to:

Criteria evidencing residency:

1. If a person is subject to tax liability under section 5747.02 of the Ohio Revised Code
2. If a person qualifies to vote in Ohio
3. If a person is eligible to receive state welfare benefits
4. If a person has an Ohio driver's license and/or motor vehicle registration
5. If a person has a signed and binding lease/deed to a domicile in the State of Ohio

Criteria evidencing lack of residency:

1. If a person is a resident of or intends to be a resident of another state or nation for the purpose of tax liability, voting, receipt of welfare benefits or student loan benefits (if the student qualified for that loan program by being a resident of that state or nation)
2. If a person is a resident or intends to be a resident of another state or nation for any purpose other than tax liability, voting, or receipt of welfare benefits

**IMPORTANT:** An individual's immigration status will affect his or her ability to obtain resident status for tuition purposes. Contact the Office of the Registrar, phone (513) 569-1522 or registraroffice@cincinnatiastate.edu (xregistraroffice@cincinnatiastate.edu) for more information. Additional information and guidelines concerning residency are available in the Office of the Registrar.

## Ohio Residency for Tuition Surcharge Purposes

Tuition is charged on the basis of residence in the State of Ohio and residence outside of the State of Ohio. A student with a question of their right to claim legal residence in the State of Ohio for educational purposes may request the College review their residency status.

- The student initiates the review process by submitting a completed Review of Residency form, available from the Tuition Residency Guidelines (<https://cincinnatiastate.edu/reciprocity/>) page of the College website.
- The Review of Residency form should be submitted to the Cincinnati State Office of the Registrar at least five working days prior to the beginning of the semester in which the student plans to enroll.

Proof of residency documentation is required when requesting a review of residency. Documentation includes:

- An Ohio driver's license or Ohio state identification card is required.
- A lease, deed, or notarized letter to validate living in the state is required.
- Proof of paying Ohio income tax, bank statements, voter registration card, and employment documents and letters all can be considered support documents to validate residency status.
- Other documents may be requested as needed.

## Forever Buckeye

Forever Buckeye (<https://www.ohiohighered.org/forever-buckeyes/>) extends the in-state resident tuition rate to any public or private Ohio

high school graduate who leaves the state but returns to enroll in an undergraduate or graduate program at an Ohio college and also establishes residency in Ohio. The Forever Buckeyes provision of law removes the 12-month period of establishing domicile in Ohio before becoming eligible for in-state tuition rates.

## Tuition Reciprocity for Indiana Residents

Cincinnati State Technical and Community College does not charge out-of-state tuition to residents of Adams, Allen, Blackford, Clark, Dearborn, Decatur, Delaware, Fayette, Floyd, Franklin, Henry, Jay, Jefferson, Jennings, Ohio, Randolph, Ripley, Rush, Scott, Switzerland, Union, Washington, Wayne, and Wells counties in Indiana who are admitted to the College in either a degree or certificate program under the reciprocity agreement between Ohio and Indiana.

The only programs excluded from the reciprocity agreement with Indiana are the Nursing programs, including the associate's degree in Nursing (NUR and NURP) and the Practical Nursing certificate (PNC).

To be admitted a student must submit an admission application, have high school and college (if applicable) transcripts mailed to Cincinnati State, and complete the college placement/assessment test. Students must be admitted to the College and received their letter of admission to be eligible for in-state tuition.

This same reciprocity agreement enables residents of Butler, Darke, Mercer, Preble, Shelby, and Van Wert counties in Ohio to attend and pay Indiana resident tuition rates at Ball State University, Indiana University East, Ivy Tech Community College of Indiana-Region 6, Ivy Tech Community College of Indiana-Region 9 and Purdue University College of Technology at Muncie and Richmond in courses or programs not specifically excluded from this agreement by each institution.

For more information regarding tuition reciprocity for Indiana resident please visit the tuition and fees (<http://www.cincinnatiastate.edu/admission-financial-aid/admissions/tuition-fees/tuition-fees/?searchterm=tuition%20residency>) page of the College website.

## Tuition Reciprocity for Northern Kentucky Residents

Cincinnati State does not charge out-of-state tuition to residents of Boone, Bracken, Campbell, Carroll, Gallatin, Grant, Kenton, and Pendleton counties in Kentucky who are approved to enroll at Cincinnati State under the reciprocity agreement between Ohio and Kentucky.

To qualify for reciprocity, students must be admitted to Cincinnati State as degree-seeking (matriculated) students and enroll in eligible associate's degree programs. To be admitted a student must submit an application for admission, have high school and college (if applicable) transcripts mailed to Cincinnati State, and complete the college placement/assessment test. Certificate programs are excluded from this tuition reciprocity agreement.

This same reciprocity agreement enables graduates of Cincinnati State who are residents of Butler, Clermont, Hamilton, and Warren counties in Ohio to enroll in certain baccalaureate degree programs at Northern Kentucky University and pay Kentucky resident tuition rates. Graduates must satisfy all NKU regular transfer admission

requirements, including any requirements of the specific baccalaureate program.

For more information regarding tuition reciprocity for Northern Kentucky residents please visit the tuition and fees (<http://www.cincinnati-state.edu/admission-financial-aid/admissions/tuition-fees/tuition-fees/?searchterm=tuition%20residency>) page of the College website.

## Tuition and Fees

### Tuition and Fees

#### Tuition

Tuition includes instructional fee, general fee, and other non-instructional service fees. Non-resident fees include a non-resident surcharge.

*The tuition rates below are applicable for the academic year that begins August 24, 2020.*

#### Tuition per Credit Hour

In-State Tuition	Out-of-State Tuition
\$168.64	\$337.28

**Kentucky and Indiana residents will be charged Ohio in-state tuition when applicable under reciprocity agreements.**

#### Schedule of Fees

*The fees listed below are applicable for the academic year that begins August 24, 2020.*

#### Lab Fees

- Standard lab fee: \$35 per lab contact hour
- Special lab fee: \$50 per lab contact hour for courses with the department codes listed below (fee covers consumable materials and/or special supplies and equipment used)
  - Aviation Maintenance Technology (AMT)
  - Culinary Arts (CUL)
  - Dietetics (DT)
  - Pastry Arts (PAS)
  - Personal Chef (PCC)
  - Welding (WLD)
- All Health and Public Safety Division courses, **not including** courses in Exercise Science (EXS), Health Information Management (HIM), Physical Education (PE), and Public Safety Technology (PST)

#### Course Fees

- Cooperative education course fee: \$30 per course
- Developmental (academic foundations-level) course fee: \$10 per course
- Directed practice / practicum course fee: \$40 per course
- Web-based course fee: \$10 per credit hour
- Special course fee: Some courses have additional fees related to the cost of special supplies and equipment used in specific degree or certificate programs.

**The maximum amount charged for lab fees and/or course fees for any one course will not exceed \$350. This does not include the cost of course tuition.**

#### Example: how to calculate tuition and fee costs for a course

An Ohio resident registers for semester class IM 100 Computer Literacy. This course is listed in the catalog with 1 lecture contact hour, 2 lab contact hours, and 2 total credit hours.

- Tuition is 2 (credit hours) x \$168.64 = \$337.28
- Lab fee is 2 (lab contact hours) x \$35 = \$70

Total tuition and lab fee for this class is \$337.28 + \$70 = \$407.28

#### Other Fees

- Admission Application Fee: \$15 (one-time fee, payable at first registration)
- Extended Payment Plan Fee: \$60 per semester
- Career Services Fee: \$7 per credit hour
- Facility Fee: \$9 per credit hour up to a maximum of \$82.50 per semester
- Registration Fee: \$9 per semester
- Late Registration Fee: \$100 per semester (applied after the deadline for on-time registration)
- Technology Fee: \$37.50 per semester

#### Parking Fees

Parking privileges are \$5 per day or \$75 per semester

*All fees are subject to change at the discretion of the College.*

All fees for each semester must be paid by the end of that semester. Certificates, degrees, transcripts, and further registration activities are withheld until all financial obligations are fully paid.

#### Books and Supplies

The cost of books and supplies can vary from semester to semester. Also, different programs have different requirements. For example, students in engineering technologies programs generally will spend more on supplies and equipment than students in business technologies programs. The first semester usually is the most expensive, as students purchase books and supplies at that time that will be used in later semesters also.

Students with pending financial aid in excess of their tuition and fees may charge books against their pending financial aid, using their SurgeCard (p. 346), at the College's Follett Bookstore (<http://www.cincinnati-state.edu/on-campus/bookstore/?searchterm=bookstore>) located the first floor of the ATLC Building (Clifton Campus).

#### Cooperative Education Credit Charges

Charges for cooperative education class registration (co-op credits) must be paid by the established registration date. Review the program curriculum published in the academic division section of this catalog to determine the exact number of co-op credits required.

## Refund of Tuition and Fee Charges

Students are responsible for paying all charges incurred as a result of registering for classes. The College will not drop a student's classes or reduce tuition charges/fees due to a student's non-payment of those charges.

Students may receive a fee reduction for classes by formally withdrawing from those classes for any reason. The amount of the fee reduction is based on the date of withdrawal and calculated according to the College's published refund schedule (below). Refunds are disbursed to the student or/and a third-party payer. There also may be a reduction or loss of financial aid eligibility.

Refund checks are mailed to students within 14 days of financial aid disbursement if there is financial aid in excess of a student's tuition charges/fees.

1. Requests for refunds are considered only if the student officially drops the course. Students may utilize the online registration function of MyServices to drop courses at any time. Students may also drop a course at any time by completing and signing the official Registration Activity Form available in the Office of the Registrar.
2. The Admission fee, Registration fee and Late Registration fee are NOT refundable.
3. The following fees are refundable only during the 100% tuition refund period:
  - Technology fee
  - Facility fee
  - Career Services fee
4. The College's tuition refund schedule for standard semester courses is as follows:
  - Refunds for full-semester-length (15-week) classes dropped before the first day of the semester are calculated at a rate of 100% refund of the in-state or out-of-state tuition and course/lab fee for the dropped class. Students are not eligible for financial aid for these dropped classes.
  - Refunds for full-semester-length classes dropped from the first day of the semester through the seventh calendar day of the semester are calculated at a rate of 100% refund of the in-state or out-of-state tuition and course/lab fee only for the dropped class. Students are not eligible for financial aid for these dropped classes.
  - Refunds for full-semester-length classes dropped from the eighth to fourteenth calendar day of the semester are calculated at a rate of 50% refund of the in-state or out-of-state tuition fee and course/lab fee for the dropped class.
  - There is no reduction of charges for full-semester-length courses dropped after the fourteenth calendar day of the semester; however, there may be a reduction or loss of financial aid eligibility.
5. Refunds for flexibly-scheduled courses: Courses which have a beginning or/and ending date different than the first and last days of the standard semester schedule are considered flexibly-scheduled and have a prorated refund period applied to them. A 100% refund is applicable to a flexibly-scheduled course dropped in the first 7% period of that course's semester. A 50% refund is applicable to a flexibly-scheduled course dropped in the 8% to 14% period of that course's semester. No refund is applicable after the 14% period of the semester.

6. Refunds for cancelled courses: A refund of 100% is made to a student who has registered for a course that is cancelled by the College, if the student does not change to another course.
7. Refunds for students whose registration bill was paid by third party funding (financial aid, agency) are applied toward reimbursing the third party before any disbursement to the student.
8. If a student owes a financial obligation to the College, the refund is applied toward payment of the balance due before any disbursement to the student.
9. Students who do not follow the established dropped-class procedures of the College are not eligible for a refund.
10. Students who have questions concerning refunds should contact the Cashier's Office.
11. Appeals to this refund policy may be filed by completing and submitting an appeal form, available at the Cashier's Office.

*Cincinnati State Technical and Community College reserves the right to revise this statement of tuition refunds at any time.*

For more information contact the Cashier's Office, phone (513) 569-1580 or [cashier@cincinnati-state.edu](mailto:cashier@cincinnati-state.edu).

## Tuition Waiver for Senior Citizens

Tuition waivers are available for senior citizens who register to audit courses (take courses but do not earn grades or academic credits) on a space-available basis during open registration periods. The waiver covers the in-state tuition fee; senior citizens must pay all other fees. Waivers are not applicable to non-audited courses or to non-credit courses. A senior citizen is defined as a student who is 60 years of age or older at the time of registration.

## Financial Aid and Scholarships

The Office of Financial Aid enables access to higher education by working closely with current and prospective students to learn about and apply for available grants, scholarships, loans, and work-study programs.

The Office of Financial Aid, located in ATLC Building Room 105 (Clifton Campus), is open to assist students Monday through Friday. No appointment is necessary. Students are accommodated on a first-come, first-served basis.

Telephone assistance is available during office hours at (513) 569-1530, or send email to [fam@cincinnati-state.edu](mailto:fam@cincinnati-state.edu).

## How to Apply

**For financial aid consideration**, you must complete the Free Application for Federal Student Aid (FAFSA) available at [www.fafsa.gov](http://www.fafsa.gov) (<http://www.fafsa.gov/>).

- Students and parents of dependent students must apply for Federal Student Aid ID (FSAID) at <https://fsaid.ed.gov/npas/index.htm> (<https://fsaid.ed.gov/npas/>). The FSAID is used as the electronic signature for the FAFSA and on Master Promissory Notes for student or parent loans.
- Use Cincinnati State's Title IV school code, 010345, when filling out the FAFSA to ensure Cincinnati State receives the FAFSA information.
- The FAFSA can be completed starting October 1 of each year to qualify for financial aid for the next academic year. (For example,

October 1, 2020, is the date to start the FAFSA for financial aid that begins August 2021 and is used during the 2021-2022 academic year.)

- Review the financial aid eligibility requirements and application steps in the Apply for Financial Aid (<https://www.cincinnati.edu/academics/financial-aid/applying/>) section of the College website.

**For Cincinnati State scholarship consideration**, you must complete the online scholarship application available in the Scholarship (<https://www.cincinnati.edu/academics/financial-aid/financial-aid-types/scholarships/>) section of the College website.

- The online application is available beginning November 1 each year.
- The deadline for submitting the scholarship application is February 15 each year.

Scholarship eligibility requirements include:

- Must be a U.S. citizen or eligible non-citizen.
- Accepted for enrollment into a degree or eligible certificate program prior to deadline.
- Minimum grade point average of 2.0, however most scholarships require at least a 3.0.
- For need-based scholarships, must have a FAFSA on file.
- Minimum of one professional letter of recommendation, delivered in an electronic format.

Students who meet the eligibility criteria and complete all requirements by February 15 each year are considered for all scholarships for which they are eligible. The number and types of scholarships vary from year to year, depending on funds received for the scholarship program.

Students are encouraged to review additional outside scholarship information in the External Scholarship Opportunities (<https://www.cincinnati.edu/academics/financial-aid/financial-aid-resources/external-scholarships/>) section of the College website.

## Types of Financial Aid Programs

Financial aid is comprised of four general categories: grants, scholarships, loans, and work-study.

- Grants are free money usually awarded based on need, as determined by completing the FAFSA. Grants are available from the institution, and federal and state governments. For more information, review the Grants (<https://www.cincinnati.edu/academics/financial-aid/financial-aid-types/grants/>) section of the College website.
- Scholarships are generally awarded based on academic merit or talent. For more information, review the Scholarships (<https://www.cincinnati.edu/academics/financial-aid/financial-aid-types/scholarships/>) section of the College website.
- Loans are borrowed money that must be paid back. Loans are available from the federal government and private lenders. For more information, review the Loans (<https://www.cincinnati.edu/academics/financial-aid/financial-aid-types/loans/>) section of the College website.
- Federal Work-Study is a need-based work program that provides funding for part-time jobs to help students earn money while attending classes. For more information, review the Work-Study

(<https://www.cincinnati.edu/academics/financial-aid/financial-aid-types/work-study/>) section of the College website.

## Financial Aid Policies

Students receiving federal, state and institutional financial aid should be aware of all financial aid policies governing financial aid eligibility. All financial aid policies can be found in the Financial Aid Resources (<https://www.cincinnati.edu/academics/financial-aid/financial-aid-resources/>) section of the College website.

# Academic Policies and Procedures\*

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This section of the catalog, and the related sub-sections, describe how academic performance is guided and measured at Cincinnati State.

The sub-sections include:

- policies for applying advanced placement and other external credits to Cincinnati State coursework
- policies and procedures related to registering for classes
- policies and procedures affecting academic matters such as grades and graduation

## Assessment of Learning Outcomes

All Cincinnati State students participate in assessment activities throughout their academic life at the College. In addition, the College collects and analyzes information from graduates, employers, advisory committee members, and other external sources to assist faculty and staff in monitoring the effectiveness of academic programs.

Cincinnati State is accredited by the Higher Learning Commission, a regional accreditation agency recognized by the U.S. Department of Education (<https://www.hlcommission.org> (<https://www.hlcommission.org/>) or 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604, phone 800-621-7440).

Under the auspices of the Higher Learning Commission, and in congruence with the College mission statement, Cincinnati State has established the following criteria for assessing the outcomes of general educational for Cincinnati State graduates.

A Cincinnati State graduate will be able to:

- Read critically, including the ability to analyze and interpret a variety of printed books, documents, and articles
- Produce clear, logical, correct, coherent, and properly documented prose
- Plan, write, and deliver an effective oral presentation
- Use mathematical skills to solve practical problems
- Analyze, interpret, and critically respond to non-print media/ sources
- Explain how social, organizational, and technological systems work
- Display awareness of cultural, ethnic, gender, racial, and religious diversity
- Demonstrate self-management skills such as being able to accurately self assess, set personal goals, and monitor personal progress
- Demonstrate professional and ethical workplace practices by successful completion of cooperative education, clinical or practicum experience, or internships
- Function in the workplace both independently and as a member of a team
- Display a commitment to lifelong learning

Learning Outcomes for each degree program offered by the College are listed in the Academic Divisions and Degree and Certificate Programs section of this Catalog.

## Equal Opportunity

Cincinnati State is committed to a policy of equal educational opportunities for all persons regardless of race, age, handicap, sexual orientation, national origin, or gender. This policy is adopted as a matter of law and as a matter of educational policy consistent with the goals and purposes of the College.

The College also adheres to a policy of equal employment opportunity and affirmative action to end any illegal pattern of discrimination and to overcome the effects of past discrimination.

## Credits Earned from Other Institutions

This section describes how Cincinnati State processes requests to accept credit for educational work completed at other institutions or in other settings.

### Advanced Standing Credit, General Policies (AC, CL, EC, EL, ET, EX, IB, TP, VO)

Advanced standing credit means that a student receives credit for completing a Cincinnati State course or cooperative education requirement by using one of the methods listed below to demonstrate successful completion of appropriate prior academic and/or work experience. Advanced standing credit is available to students who have been accepted into a degree or certificate program.

Students seeking advanced standing credit must follow College and divisional procedures published elsewhere in this Catalog and/or on the College website.

The types of advanced standing credit are:

### External Proficiency Examination

The amount of credit given for an external proficiency examination is determined by the appropriate academic department.

- Credit may be awarded for Advanced Placement (AP) scores of three or higher. Credit is shown on the student's record as AC.
- Credit is awarded for College Level Examination Program (CLEP) scores. Students should have their CLEP test scores sent to the Cincinnati State Office of Admission for processing. Credit is shown on the student's record as CL.
- Credit may be awarded for International Baccalaureate program scores of five or higher. Credit is shown on the student's record as IB.

### Internal Cincinnati State Proficiency Exam

Credit is shown on the student's record as EC.

### Credit for Applicable Work Experience

Credit is shown on the student's record as EX.

### Credit for an External Certificate/Licensing Exam

Credit is shown on the student's record as EL.

## Credit for an External Formal Training Program

Credit is shown on the student's record as ET.

## Credit through Senior Vocational Teacher Referral

Credit is shown on the student's record as VO.

## Credit for Tech Prep Coursework

Credit is shown on the student's record as TP.

Some types of advanced standing credit are not available in some degree or certificate programs.

Students should be aware that advanced standing credit awarded by Cincinnati State may not be applicable to degrees at other colleges or universities. A student who intends to transfer to another college or university should consult with a transfer advisor at that institution concerning the transferability of Cincinnati State advanced standing credits.

Students should make arrangements to apply for advanced standing credit as soon as possible after admission to a program.

## Requesting Advanced Placement (AP Exam) Credit

Cincinnati State awards advanced standing credit to students who have completed Advanced Placement (AP) courses in high school and have achieved an appropriate test score.

The State of Ohio, working through the University System of Ohio, has initiated policies to facilitate the ease of transition from high school to college as well as between and among Ohio's public colleges and universities. For example:

1. Students obtaining an appropriate Advanced Placement (AP) exam score are awarded the aligned course(s) and credits for the AP exam area(s) successfully completed.
2. General Education courses and credits received are applied towards graduation and satisfy a general education requirement if the course(s) to which the AP area is equivalent fulfill a requirement.
3. If an equivalent course is not available for the AP exam area completed, elective or area credit is awarded in the appropriate academic discipline and is applied towards graduation where such elective credit options exist within the academic major.
4. Additional courses or credits may be available when a score of four or five is obtained. Award of credit for higher score values varies depending on the institution and academic discipline.
5. In academic disciplines containing highly dependent sequences (Sciences, Technology, Engineering and Mathematics – STEM), students are strongly advised to confer with the college/university advising staff to ensure they have the appropriate foundation to be successful in advanced coursework within the sequence.

Students should have their AP test scores sent to Cincinnati State's Office of Admission for processing.

## Requesting International Baccalaureate Credit

Cincinnati State awards credit to International Baccalaureate (IB) diploma graduates for higher level subjects passed at a satisfactory level. Minimum scores vary, by subject area, from five to seven.

Credit may be awarded based on the recommendation of the appropriate Cincinnati State academic department or division.

Students should have their IB test scores sent by the International Baccalaureate Organization to Cincinnati State's Office of Admission for processing.

## Requesting Other Advanced Standing Credit

To obtain advanced standing credit for all other types of prior learning, a student should:

1. Obtain a Petition for Advanced Standing Credit from the Office of the Registrar.
2. Meet with his/her program chair or academic advisor to determine eligibility for advanced standing credit, and to determine which faculty member should receive the completed petition and supporting documentation.  
Note that in situations where coursework or equivalent experience is five years old or older, or where requisite skills may have been lost, courses previously taken, or equivalent experience, are subject to review by the program chair and dean. Courses or equivalent experiences that do not meet current program requirements and standards will not count toward degree or certificate requirements.
3. Pay the advanced standing credit fee at the College Cashier's Office, where the petition is marked "paid." This step applies to students seeking advanced standing credit either through internal proficiency exams or through documented valid academic or work experience. A separate fee is charged for each attempt to earn credit through an internal proficiency exam.
4. Submit the completed petition and supporting documentation to the appropriate faculty member, as determined in Step 2.

After the petition and related materials are reviewed by appropriate division personnel, and the request for advanced standing credit is approved or disapproved, the petition is forwarded to the Office of the Registrar and the student is notified of the results.

Students cannot earn credit through an exam for a course already completed at Cincinnati State. A course is defined as "completed" if a grade of A, B, C, D, F, S, U, or W has been issued.

## Waiver of English Composition Requirement Based on Earned Degree

A student who has earned an associate's or bachelor's degree at a regionally accredited college or university will receive a waiver, which will satisfy the Cincinnati State English Composition requirement for all degree and certificate programs. The waiver will appear on the student's transcript as "ENG REQC – Eng Comp Complete."



To receive this waiver, an official academic transcript from the degree-granting institution must be submitted to Cincinnati State, using procedures described in the Admission (p. 347) section of this catalog.

## Courses Earned through AP Credit

### Requesting Advanced Placement (AP Exam) Credit

Cincinnati State awards advanced standing credit to students who have completed Advanced Placement (AP) courses in high school and have achieved an appropriate test score.

The State of Ohio, working through the University System of Ohio, has initiated policies to facilitate the ease of transition from high school to college as well as between and among Ohio's public colleges and universities. For example:

1. Students obtaining an appropriate Advanced Placement (AP) exam score are awarded the aligned course(s) and credits for the AP exam area(s) successfully completed.
2. General Education courses and credits received are applied towards graduation and satisfy a general education requirement if the course(s) to which the AP area is equivalent fulfill a requirement.
3. If an equivalent course is not available for the AP exam area completed, elective or area credit is awarded in the appropriate academic discipline and is applied towards graduation where such elective credit options exist within the academic major.
4. Additional courses or credits may be available when a score of four or five is obtained. Award of credit for higher score values varies depending on the institution and academic discipline.
5. In academic disciplines containing highly dependent sequences (Sciences, Technology, Engineering and Mathematics – STEM), students are strongly advised to confer with the college/university advising staff to ensure they have the appropriate foundation to be successful in advanced coursework within the sequence.

Students should have their AP test scores sent to Cincinnati State's Office of Admission for processing. Credit is shown on the student's record as AC.

The table below indicates the course awarded for each Advanced Placement exam, based on the score earned.

Test Name	Score on Test	Course Awarded	Credit Hours Awarded
Art History	3-5	ART 110: Introduction to Art	3
Biology	3	BIO 131: Biology 1	5
Biology	4-5	BIO 131: Biology 1 & BIO 132: Biology 2	5 + 5
Calculus AB	3-5	MAT 251: Calculus 1	5
Calculus BC	3-5	MAT 251: Calculus 1 & MAT 252: Calculus 2	5 + 5
Capstone Research	3-5	General Elective	3
Capstone Seminar	3-5	General Elective	3

Chemistry	3	CHE 121: General Chemistry 1 & CHE 131: General Chemistry 1 Lab	4 + 1
Chemistry	4-5	CHE 121: General Chemistry 1 & CHE 131: General Chemistry 1 Lab & CHE 122: General Chemistry 2 & CHE 132: General Chemistry 2 Lab	4 + 1 + 4 + 1
Chinese Language and Culture	3-5	General Elective	8
Comparative Government and Politics	3-5	POL 102: Introduction to Comparative Governments and Politics	3
Computer Science A	3-5	General Elective	3
Computer Science AB	3-5	General Elective	3
Computer Science Principles	3-5	IT 100: Computer Programming Foundations	3
English Language	3-4	ENG 101: English Composition 1	3
English Language	5	ENG 101: English Composition 1 & ENG 102: English Composition 2	3 + 3
English Literature	3-4	ENG 101: English Composition 1	3
English Literature	5	ENG 101: English Composition 1 & ENG 102: English Composition 2	3 + 3
Environmental Science	3	EVS 130: Ecology and Ecosystems	4
Environmental Science	4-5	EVS 130: Ecology and Ecosystems & EVS 110: Environmental Science: Conservation and Cleanup	4 + 4
European History	3-5	Transfer Module Social Science Elective	3
French Language	3	FRN 101: Elementary French 1 & FRN 102: Elementary French 2	4 + 4
French Language	4	FRN 101 Elementary French 1 & FRN 102 Elementary French 2 & FRN 201: Intermediate French 1	4 + 4 + 4
French Language	5	FRN 101: Elementary French 1 & FRN 102: Elementary French 2 & FRN 201: Intermediate French 1 & FRN 202: Intermediate French 2	4 + 4 + 4 + 4
German Language	3-5	General Elective	8
Human Geography	3-5	GEO 115: Cultural Geography	3
Italian Language and Culture	3-5	General Elective	8
Japanese Language and Culture	3-5	General Elective	8

Latin	3-5	General Elective	8
Latin Literature	3-5	General Elective	8
Latin: Virgil	3-5	General Elective	8
Macroeconomics	3-5	ECO 110: Principles of Macroeconomics	3
Microeconomics	3-5	ECO 105: Principles of Microeconomics	3
Music Theory	3-5	General Elective	3
Physics 1	3-5	PHY 151: Physics 1: Algebra and Trigonometry Based	4
Physics 2	3-5	PHY 152: Physics 2: Algebra and Trigonometry Based	4
Physics B	3-5	PHY 151: Physics 1: Algebra and Trigonometry Based & PHY 152: Physics 2: Algebra and Trigonometry Based	4 + 4
Physics C: Mechanics	3-5	PHY 201: Physics 1: Calculus Based	5
Physics C: Electricity and Magnetism	3-5	PHY 202: Physics 2: Calculus Based	5
Psychology	3-5	PHY 110: Introduction to Psychology	3
Spanish Language	3	SPN 101: Elementary Spanish 1 & SPN 102: Elementary Spanish 2	4 + 4
Spanish Language	4	SPN 101: Elementary Spanish 1 & SPN 102: Elementary Spanish 2 & SPN 201: Intermediate Spanish 1	4 + 4 + 4
Spanish Language	5	SPN 101: Elementary Spanish 1 & SPN 102: Elementary Spanish 2 & SPN 201: Intermediate Spanish 1 & SPN 202: Intermediate Spanish 2	4 + 4 + 4 + 4
Spanish Literature	3-4	SPN 101: Elementary Spanish 1 & SPN 102: Elementary Spanish 2 & SPN 201: Intermediate Spanish 1	4 + 4 + 4
Spanish Literature	5	SPN 101: Elementary Spanish 1 & SPN 102: Elementary Spanish 2 & SPN 201: Intermediate Spanish 1 & SPN 202: Intermediate Spanish 2	4 + 4 + 4 + 4
Statistics	3-4	MAT 131: Statistics 1	3
Statistics	5	MAT 131: Statistics 1 & MAT 132: Statistics 2	3 + 3
Studio Art 2-D	3-5	General Elective	3
Studio Art 3-D	3-5	General Elective	3
Studio Art Drawing	3-5	ART 141: Drawing 1	3

U.S. Government and Politics	3-5	POL 101: American Government	3
U.S. History	3-5	HST 111: American History, Early Settlers to 1877 & HST 112: American History, 1877 to Present	3 + 3
World History	3-5	HST 101: World History: Prehistory to 1500 & HST 102: World History: 1500-Present	3 + 3

## Courses Earned through CLEP Credit

### Requesting College Level Examination Program (CLEP) Credit

Credit is awarded for College Level Examination Program (CLEP) scores. Students should have their CLEP test scores sent to the Cincinnati State Office of Admission for processing. Credit is shown on the student's record as CL.

The table below indicates the course awarded for each CLEP exam, based on the score earned.

Test Name	Score on Test	Course Awarded	Credit Hours Awarded
American Government	56-62	Transfer Module Social Science Credit	3
American Government	63 and above	POL 101: Introduction to American Government	3
American Literature	53 and above	Transfer Module Arts/Humanities Credit	3
Biology	50 and above	Transfer Module Natural Science without Lab Credit	3
Chemistry	50-65	Transfer Module Natural Science without Lab Credit	3
Chemistry	66 and above	CHE 121: General Chemistry 1	4
College Algebra	63 and above	MAT 151: College Algebra	4
English Literature	63 and above	Transfer Module Arts/Humanities Credit	6
Financial Accounting	65 and above	ACC 101: Financial Accounting	3
French Language	55-64	FRN 101: Elementary French 1 & FRN 102: Elementary French 2	4 + 4
French Language	65 and above	FRN 101: Elementary French 1 & FRN 102: Elementary French 2 & FRN 201: Intermediate French 1 & FRN 202: Intermediate French 2	4 + 4 + 4 + 4
German Language	59-66	General Elective	8
German Language	67 and above	General Elective	12

History of the United States 1	61 and above	HST 111: American History: Early Settlers to 1877	3
History of the United States 2	57 and above	HST 112: American History: 1877 to Present	3
Human Growth and Development	58 and above	PSY 225: Lifespan Development	3
Information Systems	50 and above	General Elective	3
Introduction to Educational Psychology	62 and above	Transfer Module Social Science Credit	3
Introductory Business Law	57 and above	LAW 101: Business Law	3
Introductory Psychology	55 and above	PSY 110: Introduction to Psychology	3
Introductory Sociology	56 and above	SOC 105: Introduction to Sociology	3
Principles of Macroeconomics	56 and above	ECO 110: Principles of Macroeconomics	3
Principles of Management	50 and above	General Elective	3
Principles of Marketing	65 and above	MKT 101: Principles of Marketing	3
Principles of Microeconomics	57 and above	ECO 105: Principles of Microeconomics	3
Spanish Language	56-62	SPN 101: Elementary Spanish 1 & SPN 102: Elementary Spanish 2	4 + 4
Spanish Language	63-67	SPN 101: Elementary Spanish 1 & SPN 102: Elementary Spanish 2 & SPN 201: Intermediate Spanish 1	4 + 4 + 4
Spanish Language	68 and above	SPN 101: Elementary Spanish 1 & SPN 102: Elementary Spanish 2 & SPN 201: Intermediate Spanish 1 & SPN 202: Intermediate Spanish 2	4 + 4 + 4 + 4
Western Civilization 1	55 and above	HST 161: Western Civilization 1: Ancient Near East to 1648	3
Western Civilization 2	54 and above	HST 162: Western Civilization 2: 1648 to Present	3
Analyzing and Interpreting Literature	59 and above	LIT 200: Introduction to Literature	3
Calculus	64 and above	MAT 251: Calculus 1	5
College Composition	50 and above	No course awarded, but student is eligible to enroll in ENG 101	0
College Composition Modular	50 and above	No course awarded, but student is eligible to enroll in ENG 101	0

College Mathematics	63 and above	Transfer Module Math Credit	3
Humanities	55 and above	Transfer Module Arts/ Humanities Credit	3
Natural Sciences	No Acceptable Score	No Credit Awarded	0
Precalculus	61 and above	MAT 153: Precalculus	6
Social Sciences and History	63 and above	Transfer Module Social Science Credit	3

## Registration

Current registration deadlines for each semester are available on the Important Dates Chart in the Calendars (<https://cincinnati.state.edu/academic-calendar/>) section of the College website.

Students may register for classes using these methods:

- online using the MyServices section of the Cincinnati State website
- in person in the Office of the Registrar (Clifton Campus)
- by fax sent to the Office of the Registrar at (513) 569-1883

## Administrative Withdrawal from Admitted Status and Readmission Process

An admitted student who has not enrolled in classes for three consecutive semesters is administratively removed from admitted status. To regain admitted status, students must reapply for admission by submitting a new Application for Admission and paying a \$15 non-refundable fee.

Students who are readmitted must meet the academic program requirements that are in effect at the time of readmission.

- Previously-admitted students who have not enrolled in any classes for **one (1) year** must:
  - Resubmit an Application for Admission.
  - Pay a \$15 non-refundable admission fee (charged to the student's first registration bill).
- Previously-admitted students who are reapplying **two (2) years to four (4) years** after their prior admission date must:
  - Resubmit an Application for Admission.
  - Pay a \$15 non-refundable admission fee (charged to the student's first registration bill).
- Previously-admitted students who are reapplying **five (5) years or more** after their prior admission date must:
  - Resubmit an Application for Admission.
  - Resubmit all required documents.
  - Pay a \$15 non-refundable admission fee (charged to the student's first registration bill).
- If you have **graduated from Cincinnati State** with a degree or certificate, but wish to resume studies at the College, you must submit a new Application for Admission.
  - You don't need to resubmit previously-submitted documents.
  - You must pay a \$15 non-refundable admission fee (charged to the student's first registration bill).

For additional information, see the Admission Overview (<https://cincinnatistate.edu/academics/admission/admission-overview/>) section of the College website.

## Changing Degree Programs

Students who wish to change from one associate's degree or certificate program to another must complete the online Change of Major form found under "Admission" in the MyServices area of MyCState.

When a student changes from one degree or certificate program to another, all courses attempted that apply to the new Degree Audit curriculum – with the exception of cooperative education courses – automatically transfer to the new program.

The Degree Audit curriculum is the official set of academic requirements in effect for new students at the time of admission to the degree or certificate program.

Course substitutions that were made for a former program do not apply automatically to the new program. The program chair or academic advisor for the program the student is entering must approve course substitutions.

The new program's Degree Audit curriculum serves as the basis for calculating the program Grade Point Average (GPA). Additional transfer of courses to the new program, including cooperative education courses, is based on evaluation of the student's coursework by the program chair and/or cooperative education coordinator.

In situations where coursework is five years old or older, or where requisite skills may have been lost, courses previously taken are subject to review by the program chair and dean. Those courses reviewed that do not meet current program requirements and standards will not count toward degree or certificate requirements.

## Completing More Than One Degree (Double Major)

When students are admitted to the College, they are considered to be seeking only one academic degree or certificate. In some cases, students may seek to "double major" by pursuing a second associate's degree in an area closely related to their initial degree program.

To be considered for a double major, students must first be fully admitted to an associate's or bachelor's degree program. Students in pre-admit/pathway status are not eligible to apply for a double major. Students seeking a certificate rather than a degree are not eligible to apply for double major status.

To be considered for a double major, students must apply for admission to the second program by completing a double major form available online under "Admission" in the MyServices area of MyCState. The academic division in which the student seeks the second major determines whether the student is eligible to pursue the second major.

Students granted double major status are expected to consult regularly with their program chair and academic advisor (or advisors) to ensure they make appropriate progress in their degree programs. Students with questions or concerns about their academic status or goals should consult with their program chair or advisor, or with the Office of Admission.

## Enrollment Status

Enrollment status is determined by the official number of credit hours for which a student registers each semester. Enrollment status often is used to help determine eligibility for financial aid, veteran's benefits, company and agency funding, health insurance benefits, and auto insurance.

Students are responsible for knowing their enrollment status and understanding the impact of changing their credit hours if using the add/drop process.

Cincinnati State defines a student's enrollment as follows:

Full-Time Enrollment	12 or more credit hours or full-time cooperative education or internship course
Full-Time Enrollment Co-op	2 credit hours = full-time status
3/4-Time Enrollment	9 - 10 - 11 credit hours
Half-Time Enrollment	6 - 7 - 8 credit hours or enrollment in a part-time (half-time) cooperative education or internship course
Half-Time Enrollment Co-op	1 credit hour = half-time status
Less than Half-Time Enrollment	5 or fewer credit hours

## Enrollment Verification

The National Student Clearinghouse is the College's verifying agent. Students can see their enrollment status at [www.studentclearinghouse.org](http://www.studentclearinghouse.org) (<http://www.studentclearinghouse.org/>).

## Late Registration

Late registration begins two weeks prior to the beginning of the semester and continues until registration for the semester ends. Students who register for their first class during the late registration period will automatically be charged a \$100 non-refundable late registration fee. The instructor's approval will be required to add a class once a semester or term has begun. All registration activity must be processed in the Registrar's Office.

Specific registration deadlines for each semester are available on the "Important Dates Chart" in the Calendar section of the College website.

## Name Changes

To request a name change, students must complete a Personal Data Change form available in the Office of the Registrar. All name change requests must be accompanied by a copy of official supporting documentation. Official documentation includes, but is not limited to, a valid driver's license, marriage license, divorce decree, or court order for official name change. Only a student's legal name is used on all records maintained or issued by the College.

## Prerequisite Requirements

Before a student is permitted to register for any course, the student must successfully complete prerequisite requirements, or be currently enrolled in the course that is the prerequisite. A prerequisite can be satisfied by an appropriate placement/assessment or successful completion of a designated course prior to enrollment in the course with the prerequisite.

## Repeated Course

If a course is repeated, only the highest grade is computed in the calculation of the Grade Point Average (GPA). If a student earns the same grade upon repeating a course, only one grade is computed in the calculation of the GPA. The original course grade is still shown on the transcript with an indication that it is not calculated in the GPA.

## Limits to Repeated Course

A student who has received a grade of F, W, or any other grade twice for the same course cannot register for the course a third time without the approval of the student's program chair or academic advisor. The student may be required to meet with an academic advisor to discuss potential for success in the student's current degree or certificate program.

Students receiving financial aid should be aware of other standards related to repeated courses, discussed in the Financial Information (p. 354) section of this Catalog.

## Priority Registration

The registration period each semester consists of two overlapping segments or registration "windows":

- **Priority registration** is the time period set aside for active degree-seeking and certificate-seeking students, regardless of their accumulated credit hours.
- **Open registration** begins approximately one week after Priority registration begins. Students who are not seeking a degree or certificate may register at this time. Applicants who have not been admitted to a degree or certificate program may also register.

For specific dates of registration and additional information regarding online registration, please refer to the Office of the Registrar (<http://www.cincinnati-state.edu/admission-financial-aid/registrar/office-of-the-registrar/>) section of the College website.

## Academic Forgiveness Policy

Students experiencing current academic success may adjust their Grade Point Average (GPA) by petitioning to remove certain courses from their GPA calculation. Courses with earned grades of D, F, V, or WF that do not apply to the student's current degree or certificate program may be eligible. Courses taken in a previous completed degree program are not eligible.

Academic Forgiveness is a one-time, non-reversible option. Students who plan to transfer to another college or university should note that the new college or university may use all grades earned in computing GPAs for admission or other purposes.

## For Academic Forgiveness eligibility, students must:

- Be admitted to a degree or certificate program and have completed all academic foundations-level courses or English as a Second Language requirements.
- Have completed 12 credits or more successfully, after the last term/semester they earned grades of D or F—not including coursework for which Satisfactory/Unsatisfactory grades are assigned.

## To request Academic Forgiveness, students must:

- Complete a petition for Academic Forgiveness (available in division offices) in consultation with their program chair or academic advisor. This petition lists courses in which the student earned grades of D, F, V, or WF and requests that these grades no longer be calculated in the grade point average.
- Complete a minimum of 12 additional credits and maintain a GPA of 2.0 or higher, and earn no grade lower than a C. Academic foundations-level courses and co-op courses are not eligible.
- Submit the completed petition to the Office of the Registrar once the 12 additional credits have been earned.
- The Office of the Registrar evaluates the petition. If the student has successfully completed 12 credits with a semester grade point average of 2.0 or higher and earned no grade below a C, Academic Forgiveness is applied.
- After the petition is approved and Academic Forgiveness is applied, the following statement appears on the student's transcript: "The Academic Forgiveness policy has been applied to academic work at Cincinnati State prior to (semester/year of petition approval)." The eligible courses will not be removed from the academic record. A new cumulative grade point average is calculated, excluding the eligible courses.

## Academic Life

### Academic Advising

Academic advising assists students in reaching their academic and career goals at Cincinnati State. Program chairs, academic advisors, other faculty members, and some staff members are assigned to guide students through activities such as:

- Setting academic goals
- Developing educational plans
- Selecting courses
- Providing information on transfer credits
- Understanding and meeting requirements for graduation
- Clarifying career and personal goals
- Explaining academic policies and procedures
- Addressing academic challenges
- Making appropriate referrals to campus support services

### Academic Appeals Procedure

Cincinnati State Technical and Community College has adopted the following procedures to ensure students with legitimate concerns about academic processes (hereafter called "academic appeals") can resolve these concerns equitably.

Before using the steps below, a student is expected to attempt to resolve concerns directly with the instructor, within the semester immediately following the semester when the grade was issued.

1. A student is expected to bring his or her academic appeal first to his or her faculty advisor (program chair or cooperative education coordinator).
2. If the concern cannot be settled at this level, the student is expected to bring his or her academic appeal to the division dean or the dean's designee.

3. It is expected that most academic appeals will be resolved at the division level. However, if the concern cannot be resolved by the division dean, the student may continue the academic appeals process by meeting with an academic appeals panel.  
To initiate the appeals process, the student must submit a written request to appeal the decision of the division dean, including a statement of the concern that is to be addressed, and pertinent documentation, to the Provost. The Provost reviews all pertinent information in order to determine whether the appeal merits the formation of a panel. If the Provost determines that an appeals panel should appropriately be formed, the process continues to step four. If the Provost does not feel the student's appeal merits the formation of a panel, he/she meets with the student involved and relays his/her findings and recommendations.
4. If an academic appeals panel is convened, it is composed of one dean (excluding the dean of the division involved in the appeal), appointed by the Provost; and two faculty members, appointed by the Faculty Senate. The designated dean chairs the panel, solicits appointment of the faculty representatives, convenes meetings of the panel, and provides copies of necessary documentation to the other panel members. Documentation includes:
  - a. The student's written statement and other material the student wishes to submit.
  - b. A written summary of the disposition of the case at the division level, prepared by the division's dean.
  - c. The student's transcript, or any other related materials the panel may wish to examine.
5. The chair will convene a meeting that includes the student, the members of the panel, and other participants the panel may choose to invite to the meeting. The student has an opportunity to present his or her concern, and the panel members have the opportunity to ask questions and seek clarification. If the panel determines there are issues involved which are not academic concerns, the panel informs the student of appropriate measures to be taken.
6. The panel may, at its own discretion, refer the matter to the Academic Policies & Curriculum Committee (APCC) for advice and recommendations.
7. If the APCC is convened to review the appeal, the panel chair must ensure that all related documentation is submitted to the APCC chair one week prior to the APCC meeting. Any recommendations made by the APCC are submitted to the academic appeals panel for consideration.
8. The chair of the academic appeals panel forwards a recommendation along with all related documentation to the Provost. The Provost makes the final determination regarding the appeal and notifies the dean of the division involved in the appeal. That dean communicates this determination to the student who initiated the appeal.

## Absence for Participation in School Sponsored Activities

If a student must miss class because he or she is participating in a Cincinnati State sponsored co-curricular event (such as an athletic contest or a meeting of a professional organization), the absence should be treated as excused and should not have a negative impact on the student's attendance grade for the course.

Students are responsible for providing their instructors with appropriate documentation prior to the event. Students must also make up any

required work through a process and on a schedule to be determined by the course instructor.

It is understood that this waiver applies only to the attendance grade, and not necessarily to other components of the instructor's grading system.

## Absence for Religious Observance

Students are permitted to be absent from class to observe a religious holiday. It is the student's responsibility to notify instructors of this planned absence no later than the end of the first week of the academic semester. It is also the student's responsibility to make up any required work through a process and on a schedule to be determined by the course instructor.

## Adding, Dropping, or Withdrawing from a Course

The College's Important Dates Chart (<https://cincinnatiastate.edu/academic-calendar/>), available on the College website, lists the dates when students may add, drop, or withdraw from a course after completing their initial registration. Student transactions to add, drop, or withdraw from a course are not official unless processed using the MyServices section of the Cincinnati State website or through the Office of the Registrar.

The appropriate forms and instructions for registration activity can be obtained in the Office of the Registrar or in the Registration (<https://cincinnatiastate.edu/academics/registration/>) section of the College website.

The following procedures apply to full-semester courses with start and end dates that coincide with the first and last days of the regular (15-week) semester schedule.

Flexibly scheduled courses (with start and/or end dates that do not coincide with the first and last days of the regular semester schedule) use similar procedures, but may have a different timeline. More information is available from the Office of the Registrar.

## Adding a full-semester course

- Prior to the first course meeting of the semester, no approval is required to add an open course, unless the course has an "instructor consent" requirement.
- Once a course has met, the approval of the course instructor must be obtained.
- The fifth class day of the semester is the last day to add a course.

## Dropping a full-semester course

- Courses dropped from the time of registration through the fourteenth calendar day of the semester do not need additional approval to be processed.
- The fourteenth calendar day of the semester is the last day to drop a course. In an instance when the fourteenth day falls on a weekend or holiday, the last day to drop a course is the preceding business day.

## Withdrawing from a course - available online via MyServices

- The withdrawal period for full-semester courses begins each semester the day after the last day to drop a course (14th calendar day of the semester) and ends on the fifty-sixth instructional day. No additional approval is required to withdraw from a course during this period.
- The withdrawal period for flexibly scheduled courses begins after the day designated as the Last Day to Drop a Course for that course section, through the day designated as the Last Day to Withdraw from that course section. More information is available from the Office of the Registrar.
- Only in circumstances beyond the student's control will a withdrawal be permitted after the fifty-sixth instructional day. All official late withdrawals must be approved by the course instructor and the division dean.  
In cases where late withdrawal is not approved, the student receives the grade assigned by the instructor.

## Attendance

Each student is expected to attend all classes and cooperative education/clinical placements as scheduled. Each College faculty member is expected to document student attendance during the first two weeks of the semester and to report attendance and non-attendance to the Office of the Registrar. Attendance in cooperative education and clinical placements is reported by the cooperative education/clinical coordinator based on reports from the student's site coordinator.

Individual faculty members may establish course policies that consider attendance as a factor in determining course grades. These policies may include limits and/or penalties related to excused and/or unexcused absences. Students should check with all of their instructors to determine how attendance will be taken, and in what ways, if any, attendance is a factor in grading.

## Non-Attendance

The following policies pertain to all courses.

- Instructors are required to document student attendance in each course section for all class sessions held during the first two weeks of the semester. For courses that do not meet for the full semester (i.e., flexibly scheduled course sections) the attendance reporting period will vary based on the course's structure. Please consult the College's Important Dates Chart (<https://www.cincinnati-state.edu/academic-calendar/>) on the College website or the Office of the Registrar for information on when non-attendance is reported for these courses.
- From the first day of the semester until the First Day to Withdraw for the semester, students who drop a course must identify whether or not they attended the course section.
- A student who enrolls in a course but does not attend the course during the stated no-show period will be designated a No Show (NS) and dropped from the course by the instructor.
- If there is a discrepancy between a student's self-reported attendance status and the attendance status reported by an instructor, the attendance status reported by the instructor will be the status of record.

- Students are not permitted to begin attending a course section after an NS has been issued by the instructor or self-reported by the student for that course section.
- The designation of NS will not appear on the student's transcript.
- A student who receives an NS designation for a course is still financially responsible for payment for the course. State and federal financial aid is not applicable to a course for which a student has received an NS designation.
- A student is not permitted to withdraw from a course he or she did not attend or to which an NS has been assigned.

## Non-Attendance in Web-based and Hybrid Courses

Students enrolled in courses classified as WEB (web-based; no in-person attendance required) or HYB (hybrid; primarily web-based but with some required in-person activities) must log in to the course website during the stated no-show period of the semester and participate in an online activity.

Participation in an online activity includes, but is not limited to, submitting an academic assignment; taking an exam, completing an interactive tutorial, or completing computer-assisted instruction; participating in an online discussion about academic matters; and/or initiating contact with a faculty member to ask a question about the academic subject studied in the course.

A student who is enrolled in the course but does not log into the course website during the first two weeks of the semester will be designated as No Show (NS) by the instructor. All other policies described in the Catalog section above on "Non-Attendance" apply to students in WEB and HYB courses also.

In some cases, the website for a WEB or HYB course will be open to students prior to the first day of the semester. Student activities on the website prior to the first day of the semester will be used to determine whether an NS designation is given.

## Non-Attendance Leading to Administrative Withdrawal

The following policies pertain to all courses.

- A student who is enrolled in a course and does not attend any class sessions of that course for the consecutive equivalent of 20% of the total course length, at any time during the semester, may be administratively withdrawn from the course.
- Non-attendance is defined by the "Non-Attendance" policy and the "Non-Attendance in Web-based and Hybrid Courses" policy listed in this Catalog.
- Faculty members who implement the Administrative Withdrawal policy will include information in their course syllabus explaining how attendance is taken and stating that the consecutive equivalent of 20% of the total course length of non-attendance will lead to administrative withdrawal.
- Faculty members who implement this policy will inform the academic dean (of the division that offers the course) of the last date of attendance for any student who does not attend course sessions for the consecutive equivalent of 20% of the total course length.
- The last day an instructor may submit an Administrative Withdrawal is the date published in the College's Important Dates

Chart (<https://www.cincinnati.state.edu/academic-calendar/>) on the College website as the last day to withdraw from a course, as applicable for the 15-week and/or 10-week session of a semester.

- The dean will notify the Registrar to administratively withdraw the student from the course.

## Children on Campus

Cincinnati State Technical and Community College strives to maintain an environment conducive to teaching and learning. Therefore, whenever children are brought to campus they must remain with their parents, guardians, or caretakers in all areas of the College. Whether or not a child can be brought into a classroom is at the discretion of each instructor.

If the College's Campus Police Department finds any child left unattended, they will locate the parent/caretaker so the child can be cared for properly. Above all else, the College wishes to ensure the safety and well-being of each child.

## Course Cancellation

A course offering may be canceled prior to the beginning of a semester because of low enrollment. The College attempts to notify students of the course cancellation before the first day of the semester, but cannot guarantee that such notice will be provided.

A refund of 100% of tuition and lab/course fees is made to a student who has registered for a course that is cancelled by the College, if the student does not change to another course.

## Course Drop/Withdrawal Grading Policy

- Courses officially dropped through the fourteenth calendar day of each semester, using official processes described elsewhere in this Catalog, do not appear on a student's transcript.
- During the Withdrawal Period (the fourteenth day through the fifty-sixth day of each semester), official withdrawals are assigned a grade of W. The W appears on the student's transcript; however, it is not calculated into the grade point average (GPA).
- The instructor may not issue a W as the final grade. A grade of W is assigned only if the student completes the withdrawal process.

## Expectations for Time Required Outside of Class

The amount of time required to complete homework for Cincinnati State courses will vary, depending on the course topic and level, as well as the student's prior preparation.

Homework for college courses may include reading; writing essays, reports, or other papers; studying for quizzes and exams; preparing project materials; meeting with others to complete course activities; and a wide range of other tasks.

As a general guideline, students should plan to spend at least two to three hours outside of class each week for each course contact hour (that is, either a lecture hour or a lab hour). For example, a student enrolled in a course that has two lecture hours per week and three lab hours per week should plan to spend 10 to 15 hours per week outside of class completing work for that course.

It is the student's responsibility to plan a schedule that allows adequate time to complete the work required for each class. Students

should seek additional information from their instructors regarding expectations for the time needed to complete all coursework.

## Faculty Office Hours

All full-time College faculty members maintain office hours to conduct in-person meetings with students. Some faculty members also maintain online office hours for communication with students by email or other methods designated by the instructor.

Students should check with each instructor, or the receptionist in the instructor's division office area, to schedule appointments. In most instances, students should use the Starfish online system to schedule appointments.

## Flexibly Scheduled Courses

The following policies and procedures pertain to flexibly scheduled course sections only:

- Course sections with a beginning and/or ending date different than the first and last days of the regular (15-week) semester schedule are considered flexibly scheduled. Flexibly scheduled course sections are typically identified in the course schedule with alphabetical section designations.
- Students may register for a flexibly scheduled course section with no additional approvals, up to the time of the first course meeting.
- A student may enter a flexibly scheduled course section by the date established as the Last Day to Add for that course section. Registration after the date established as the Last Day to Add for that flexibly scheduled course section is not permitted.
- A student may drop a flexibly scheduled course section, without a grade appearing on their record, by the date established as the Last Day to Drop a Course for that course section.
- A student may withdraw from a flexibly scheduled course section from the date established as the Last Day to Drop a Course for that section through the date established as the Last Day to Withdraw from a Course for that section.

## Making Up Missed Work

The privilege of making up missed assignments, quizzes, tests, exams, and other course activities is not automatic. An instructor does not have to permit or grant make-up privileges. It is the student's responsibility to be aware of the instructor's make-up policies, and to seek this information from the instructor if necessary.

## MyServices

MyServices is the pathway to web-based student services at Cincinnati State. Through MyServices, students can register, add, and drop classes; view and print their class schedules; make payments; check on financial aid status; view and print their grade reports; view and print degree audits; and access a variety of other services.

To access MyServices, go to the Cincinnati State website (<https://cincinnati.state.edu/>) and then choose MyCState. Log in with username and password, and then choose the MyServices tab.



## Procedures for Students Called to Active Duty

Students enlisted in the military reserves or National Guard who are called to active duty may drop or withdraw from all courses. This may be accomplished in person, by email, by fax, or by mail.

Students called to active duty must complete the following steps:

- Provide the Office of the Registrar with a copy of the military orders. The student may deliver the copy of the orders to the Office of the Registrar, mail it to Office of the Registrar, 3520 Central Parkway, Cincinnati OH, 45223; fax it to (513) 569-1883; or email to registraroffice@cincinnatiastate.edu.
- Request to be dropped from all courses. If this is accomplished in person, the student completes the Registration Activity Request form. For fax, mail, or email requests, staff in the Office of the Registrar may complete the appropriate form on the student's behalf.
- Indicate to the Office of the Registrar whether he/she attended any class sessions.
- If the student attended class sessions, he/she must provide the last date of attendance for each course to be dropped.
- In some instances, time constraints may prevent the student from completing a Late Withdrawal request. In this case, the student may present the military orders within 30 business days of his/her return to receive Late Withdrawal. The Office of the Registrar does not accept Requests for Late Withdrawal after that time period.

## Requesting College Transcripts from Cincinnati State

To obtain a copy of a Cincinnati State transcript, students should complete the Transcript Request Form (<https://cincinnatiastate.edu/academics/registration/transcripts/>) available on the College website, and turn in the form in person at the Registrar's Office (Clifton Campus), online (using MyServices if they are an active student), by mail, or by fax. Students may also email the form to the Registrar's Office, as an attachment to an email message.

All requests for transcripts must include either the Transcript Request Form or all of the following information: name, student ID or Social Security number, approximate dates attended, and the address to which the transcript should be sent. Requests must include the student's signature authorizing the College to release this information.

To request or pick up a transcript in person, the Office of the Registrar (Clifton Campus) is open Monday through Thursday from 8 a.m. to 6 p.m. and Friday from 8 a.m. to 4:30 p.m. When requesting or picking up transcripts in person, a valid photo identification or a SurgeCard is required.

To request transcripts by mail, please mail the request to:  
Office of the Registrar  
Cincinnati State Technical and Community College  
3520 Central Parkway  
Cincinnati, OH 45223-2690

The Transcript Request Form may be faxed to (513) 569-1883.

The Transcript Request Form may be scanned and emailed as an attachment to [transcripts@cincinnatiastate.edu](mailto:transcripts@cincinnatiastate.edu).

### Please note:

- Students who attended Cincinnati State after 1986 may request an official transcript be printed in-person at the Office of the Registrar.
- Students may request a transcript to be sent directly from the Office of the Registrar to an individual or other institution designated by the student. Please allow three to seven working days for staff to process such requests.
- Because records prior to 1986 may be on microfilm, allow seven to ten working days for staff to process such requests.

For questions regarding ordering transcripts, please call the Office of the Registrar at (513) 569-1522.

All financial obligations to the College must be cleared before any transcripts are released.

## Student Recording and Distribution of Course Lectures and Materials

Students may not photograph, record (using audio or video technology), duplicate, reproduce, transmit, distribute, or upload or share via internet or website environments any class lectures, discussion, and/or other course materials, unless written permission has been obtained in advance from the instructor.

In the case of class discussions and/or presentations, permission must also be obtained from all students in the class and any guest speakers, if applicable. All participants must be informed in advance that activities will be recorded.

Students should review the course syllabus for instructions regarding the instructor's policy on class recordings. Unless directly authorized by the syllabus, any student wishing to record classroom activities must discuss this issue with the instructor and obtain written permission.

Any photograph or recording of class activities and/or materials is authorized solely for use as an educational resource by an individual student or, when permission is granted, with other students enrolled in the same class. Photographs and/or recordings may not be publicly exchanged, distributed, shared, or broadcast for any purpose.

Permission to allow a photograph or recording is not a transfer of any copyrights.

Violation of this policy may subject a student to disciplinary action under the College's Student Code of Conduct (p. 378).

Exception: it is not a violation of this policy for a student determined by the Office of Disability Services to be entitled to educational accommodations to exercise any rights protected under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, including needed recording or adaptations of classroom lectures, discussions, and/or course materials for personal research and study. However, all other restrictions on other use and/or distribution apply in such cases.

## Weather-Related Cancellation or Delay of Classes

In the event of adverse conditions, it may be necessary to cancel some class sessions. The College will rarely close completely. Local radio and television stations may begin announcing Cincinnati State's

operating status as early as 6:15 a.m. on the day involved, or the prior evening (depending on the weather situation). When adverse weather conditions begin to occur during a day the College is open for standard operations, the status of day and/or evening classes will be handled by an announcement during the day.

When the College announces a "late start," classes that occur prior to the delayed start time are canceled. However, if a class has at least 50 minutes remaining after the delayed start time, students should attend that class. For example, if a student's class meets from 9 to 10:50 a.m., and the College announces a delayed start time of 10 a.m., students should attend that class beginning at 10 a.m.

It is the student's responsibility to be aware of their instructors' policies and procedures for dealing with weather-related cancellations and delays, and to seek this information from their instructors if necessary.

## Academic Integrity Policy

Ethical conduct is the obligation of every member of the Cincinnati State community. Violations of academic integrity constitute serious breaches of ethical behavior. Academic integrity requires that all academic work be wholly the product of an identified individual.

### Violations of Academic Integrity

The following acts of academic misconduct are subject to disciplinary actions as described below. Additional student responsibilities are described in the Cincinnati State Student Code of Conduct (p. 378), published elsewhere in this Catalog.

**Cheating:** Cheating includes, but is not limited to:

- Use of any unauthorized assistance in taking quizzes, tests, or examinations, or completing assignments.
- Dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or completing assignments.
- The acquisition, without permission, of tests or other academic materials belonging to a member of the College faculty or staff.
- Copying computer files, text, or images of other students or downloading information from the internet and representing this work as one's own.

**Fabrication:** The falsification or invention of any information or citation in an academic exercise. "Invented" information may not be used in any laboratory experiment or other academic exercise without authorization from the instructor. For example, it is improper to analyze one sample in an experiment and covertly "invent" data based on that single experiment for several more required analyses.

**Facilitating academic dishonesty:** Knowingly or negligently allowing one's own work to be used by other students or otherwise aiding in academic dishonesty.

**Plagiarism:** The representation of the words or ideas of another as one's own in any academic exercise. To avoid plagiarism, every direct quotation must be identified by quotation marks or by appropriate indentation and must be properly cited in the text or in a footnote. Acknowledgement is required when material from another source is paraphrased or summarized in whole or in part in one's own work. The correct form for documenting direct quotations and for acknowledging paraphrased material may be found in numerous writing manuals or

handbooks. The English Department at Cincinnati State endorses the MLA style. However, some instructors may require other types of documentation. Students should refer to the instructor's syllabus and other course materials for guidance on the proper documentation style.

**Denying others access to information or material:** Denying others access to scholarly resources or deliberately impeding the progress of another student. Examples of offenses of this type include giving other students false or misleading information, making library material unavailable to others by stealing or defacing books or journals, or by deliberately misplacing or destroying reserved materials, stealing another's paper or project, or altering computer files that belong to another person.

## Academic Integrity Violations Procedure

If an instructor has reason to believe a violation of academic integrity has occurred, the procedure will start in the classroom as outlined by the instructor's syllabus. Penalties imposed by the instructor are limited to those actions whose ramifications fall within the confines of the class, i.e., failure of the assignment or failure of the course. Only the Provost can impose suspension or dismissal from the College. The instructor has the option of filing a report of the incident with the Provost for documentation purposes.

The instructor may proceed with a formal charge of academic dishonesty and recommended sanctions to the Provost. The Provost may administer the disciplinary action recommended by the faculty member or a penalty deemed more appropriate. If the student accepts the charge, the Provost will assign sanctions, and the case will be closed. If the student challenges the finding of the Provost and maintains his/her innocence, the case will move forward to an Academic Integrity Panel. The student must submit the challenge to the Provost within five working days of the Provost's notification of sanctions.

The Academic Integrity Panel consists of:

- Two students appointed by the Student Senate
- Two faculty members appointed by the Faculty Senate
- One dean appointed by the Provost

The case will be heard within 10 working days of receipt of the student's written challenge.

The student accused of Academic Dishonesty may be accompanied at the Academic Integrity hearing by a person or persons of his/her choice, not to exceed three individuals. The role of the persons accompanying the student is limited to providing support to the student. Individuals accompanying the student may not present information or answer questions in place of the student.

- Both the Academic Integrity Panel and the student may call witnesses for the hearing.
- All hearings will be closed.

The decision of the Academic Integrity Panel regarding the Academic Dishonesty violation is reached by majority vote in a session of panel members only. The decision of the panel is communicated in writing to the Provost, along with recommended sanctions, within 10 working days of the final day of panel hearings. The findings of the Academic Integrity Panel and penalty administered by the Provost are final.

## Penalties

Possible sanctions are described in the Cincinnati State Student Code of Conduct. They include:

- Warning
- Probation
- Loss of privileges
- Fines
- Restitution
- Discretionary sanctions
- College suspension
- College expulsion

In each case of academic dishonesty that is brought forward to the Provost, the Provost or the Academic Integrity Panel determines the disciplinary action to be taken. The Provost administers the disciplinary action.

## Grading Policies

### Grade Reports

Course grades are available to students at the end of each semester through the MyServices section of the College website. It is the student's responsibility to check his or her grades for accuracy. Any errors, discrepancies, or omissions should be reported to the instructor and/or division dean responsible for the course. Student concerns about grades should be made known within 30 days of the end of the semester for which the grade was issued. (See Academic Appeals Procedures (p. 365) elsewhere in this Catalog.)

### Grade Changes

Changes to course grades must be initiated by the instructor who issued the grade, and must be submitted to the appropriate division dean for approval no later than two semesters after the semester in which the grade was originally issued. The division dean forwards all approved grade changes directly to the Office of the Registrar for processing.

### Grading Standards

The College does not have a universal policy or standard for determining grades for courses or assignments. Grading policies and procedures are the prerogative of each instructor. In some instances, academic departments or programs have established grading standards that apply to a particular course or group of courses. It is the student's responsibility to be aware of their instructors' grading policies, and to seek this information from the instructor if necessary.

### Grading System and Credits Earned

The following system is used to record student achievement or status in courses:

Grade Point Value

Grade	Explanation	Grade Point Value Per Credit Hour
A	Excellent	4.000
B	Good	3.000

C	Average	2.000
D	Poor	1.000
F	Failure to complete course requirements	0.000
W	Withdrawal	Not Computed
AC	Advanced Placement Exam	Not Computed
CL	CLEP Credit	Not Computed
EC	Cincinnati State Proficiency Examination Credit	Not Computed
EL	External Certificate/Learning Exam	Not Computed
ET	External Formal Training Program	Not Computed
EX	Work Experience Credit	Not Computed
I	Incomplete	Not Computed
IP	Incomplete S/U	Not Computed
K	Transfer Credit	Not Computed
N	No Grade Reported	Not Computed
S	Satisfactory	Not Computed
TP	Tech Prep Credit	Not Computed
U	Unsatisfactory	Not Computed
VO	Vocational Teacher Referral Credit	Not Computed
X	Audit	Not Computed

## Calculation of Grade Point Average (GPA)

Cumulative GPA is calculated as the total quality points earned (grade point value per credit hour, listed above) divided by the total credit hours attempted for courses bearing quality points at the College.

Semester GPA is calculated as the total quality points earned divided by the total credit hours attempted for courses bearing quality points for the semester.

Program GPA is calculated as the total quality points earned divided by the total credit hours attempted for all courses bearing quality points listed in the student's current Degree Audit curriculum. The Degree Audit curriculum is the list of requirements the student must complete in order to earn a degree or certificate. See Graduation Requirements (p. 374) elsewhere in this Catalog for additional information.

Foundations-level English and Mathematics courses that use course numbers beginning with a zero, as well as English as a Second Language courses, are not calculated in the GPA. (Examples: ENG 085, MAT 091, and ESL 051.)

## Incomplete (I or IP)

A grade of I (incomplete) or IP (incomplete for classes graded on a satisfactory/unsatisfactory basis) is awarded at the discretion of the instructor. When unusual circumstances prevent a student from completing course requirements during the semester in which the student is enrolled, the instructor may agree to record a grade of I or IP until the final grade is established. Timetables and requirements for the completion of the course are the instructor's prerogative. However, if a

final grade has not been submitted to the Office of the Registrar by the last instructional day of the following semester, a grade of F or U (as applicable) will be automatically recorded.

## Satisfactory/Unsatisfactory Grades (S/U)

The grade of S represents satisfactory performance, or passing, in those courses graded satisfactory/unsatisfactory. Only grades of C or higher are considered passing in the satisfactory/unsatisfactory system.

## No Grade Reported (N)

An N grade is administratively assigned by the Office of the Registrar if no grades are reported by the instructor for an individual student or for an entire section of a course. A grade of N is not issued to individual students by the instructor.

## Official Course Withdrawal (W)

Students who withdraw from a full-semester, regularly-scheduled course after the Last Day to Drop a Course for the semester through the Last Day to Withdraw receive a grade of W for the course. Students who withdraw from a flexibly-scheduled course after the day designated as the Last Day to Drop a Course for that course section through the day designated as the Last Day to Withdraw from that course section receive a grade of W for the course. A W grade is not computed in the student's GPA.

## Non-Attendance Leading to Administrative Withdrawal

The following policies pertain to all courses.

- A student who is enrolled in a course and does not attend any class sessions of that course for the consecutive equivalent of 20% of the total course length, at any time during the semester, may be administratively withdrawn from the course.
- Non-attendance is defined by the "Non-Attendance" policy and the "Non-Attendance in Web-based and Hybrid Courses" policy listed in this Catalog.
- Faculty members who implement the Administrative Withdrawal policy will include information in their course syllabus explaining how attendance is taken and stating that the consecutive equivalent of 20% of the total course length of non-attendance will lead to administrative withdrawal.
- Faculty members who implement this policy will inform the academic dean (of the division that offers the course) of the last date of attendance for any student who does not attend course sessions for the consecutive equivalent of 20% of the total course length.
- The last day an instructor may submit an Administrative Withdrawal is the date published in the College's Important Dates Chart (<https://www.cincinnati.edu/academic-calendar/>) on the College website as the last day to withdraw from a course, as applicable for the 15-week and/or 10-week session of a semester.
- The dean will notify the Registrar to administratively withdraw the student from the course.

## Audit (X)

Students interested in taking a course without receiving a grade or credit may register to audit the course. No college credit may

be earned or later claimed for an audited course. Regular tuition is charged for courses being audited. Requirements for attendance, completion of assignments, and examinations are the prerogatives of the instructor of the course.

A student may not request a transfer from credit to audit or vice versa after the Last Day to Drop a Course for the semester.

## Dean's List/Academic Merit

Students who earn in one semester 12 or more credit hours for academic courses for which quality points are awarded will qualify for Dean's List status if their GPA for the current semester is 3.5 or greater and no grades of I, IP, F, or U have been earned in the current semester. Academic foundations-level English and Math courses and English as a Second Language courses are not included in GPA calculations for the Dean's List.

Students who earn in one semester between six and 11 credit hours for academic courses for which quality points are awarded will qualify for Academic Merit status if their GPA for the current semester is 3.5 or greater and no grades of I, IP, F, or U have been earned in the current semester. Academic foundations-level English and Math courses and English as a Second Language courses are not included in GPA calculations for Academic Merit.

Students who receive a grade of N will not initially be eligible for Dean's List or Academic Merit. To be eligible for Dean's List or Academic Merit, the grade change for the N grade must be submitted to the Office of the Registrar by the end of the tenth instructional day of the following semester. Grade changes for N grades submitted after the tenth instructional day of the following semester will not be recalculated for Dean's List or Academic Merit status. Recalculation for Dean's List and Academic Merit status will be done only for N grades issued for the immediately preceding semester and only if the grade changes are submitted by the deadline.

## Academic Probation, Suspension, and Dismissal

Cincinnati State students enrolled in a degree or certificate program must demonstrate satisfactory performance to remain in good academic standing at the College. Students who do not demonstrate satisfactory performance will be placed on academic probation. If the work of a student on probation does not improve, the student may be subject to academic suspension and then academic dismissal from the College. A student cannot graduate from a degree or certificate program while on academic probation or academic suspension.

(Note: Standards of satisfactory progress as applied to a student's financial aid award are described in the Financial Aid Resources (<https://www.cincinnati.edu/academics/financial-aid/financial-aid-resources/>) section of the College website.)

## Academic Warning

Students will be placed on academic warning if at least one of these conditions has occurred:

- The student has attempted 12 or more college level credits and has a semester GPA below 2.0

- The student has earned a semester grade of F in one foundations-level English or Math course or English as a Second Language course

A student on academic warning must meet with an advisor prior to registering for classes.

## Academic Probation

Students will be placed on academic probation if at least one of these conditions has occurred:

- The student has attempted 12 or more college level credits and has a cumulative GPA below 2.0
- The student has earned a semester grade of F in more than one foundations-level English or Math course or English as a Second Language course

A student on academic probation must:

1. Meet with an academic advisor prior to registering for classes. The number of credits for which the student may register will be determined in consultation with the advisor, up to a maximum of 12 credits.
2. Develop a plan for achieving academic success. This plan may be completed during an advising appointment or as part of other activities the College may offer.
3. Register for classes during the On Time Registration period. Students on academic probation are not permitted to register during the Late Registration period.

## Academic Suspension

Students will be placed on academic suspension when one of these conditions has occurred:

- A student who is on academic probation due to a cumulative GPA below 2.0 earns a semester GPA below 2.0 in the subsequent semester.
- A student who is on academic probation due to failing more than one foundations-level English or Math course or English as a Second Language course in a semester fails another foundations-level or English as a Second Language course in the subsequent semester.

A student on academic suspension may not register for any courses at Cincinnati State for two semesters, and may not represent the College or participate in College-sponsored activities, except activities intended to help the student improve his or her academic performance.

A student may appeal the academic suspension through a written request to the Provost. The written request must include a rationale for the appeal and supporting documentation. The decision of the Provost is final.

## Returning after Academic Suspension

A student who is returning to the College after academic suspension must adhere to the following conditions:

- The student must meet with his or her program chair or academic advisor to determine a plan for academic success
- The student must have permission from his or her program chair or academic advisor before registering for any classes

- The student must maintain a semester GPA of 2.0 or higher in every enrolled semester and must earn a grade of C or higher in all foundations-level English or Math courses and English as a Second Language classes. The student will continue to be considered on academic probation as long as the student's cumulative GPA is below 2.0.

In addition, it is strongly suggested that the student schedule an Academic Counseling session in the Counseling Center.

## Academic Dismissal

Cincinnati State expects students to demonstrate continued academic success while enrolled at the College. A student who has returned to the College after academic suspension and is still on probation (because of a cumulative GPA below 2.0) is expected to raise his or her cumulative GPA to 2.0 or higher by the time the student has earned 24 additional credits. Failure to attain a cumulative GPA of 2.0 or above after returning from academic suspension and completing 24 additional credits will result in academic dismissal.

A student who has been academically dismissed may not register for any courses for a period of three semesters.

A student may appeal the academic dismissal through a written request to the Provost. The written request must include a rationale for the appeal and supporting documentation. The decision of the Provost is final.

## Cooperative Education Program Policies

The cooperative education program is an integral part of Cincinnati State's past growth, current strength, and continued success. The College's commitment to cooperative education and other forms of experiential education is reflected in the curricula of most of the bachelor's and associate's degree programs.

## Co-op Education Requirements

Cincinnati State values the cooperative education experience. Each division of the College establishes its own policies regarding how students may fulfill co-op requirements. Students should refer to the academic division sections of this Catalog for additional information.

## Co-op Registration Policy

- No student may report to his or her co-op job until he or she has registered for the appropriate co-op course and paid for the course.
- A student failing to register for co-op is not eligible to receive co-op credit for that semester.
- Employers of co-op students who fail to register for co-op are notified by the co-op coordinator that the student no longer has co-op status. The employer has the option to allow the student to continue to work full-time without co-op status or to terminate employment. This decision is made by the employer.

## Academic Eligibility Requirements for Co-op

To be eligible for placement in cooperative education employment (or comparable clinical experience/directed practice), students must be fully admitted into their academic program and maintain the required

grade point average (GPA) as stated in the College Catalog (see the Academic Probation, Suspension, and Dismissal (p. 371) section of this Catalog). Students must also demonstrate satisfactory proficiency in core or other required courses. Students who do not maintain the required GPA are not eligible for cooperative education or clinical experience/directed practice without the permission of the program's co-op coordinator. Refer to the division sections of this Catalog for additional requirements.

Students are also encouraged to attend a Co-op Orientation session, where students learn about the co-op requirements for various degree programs and the options for fulfilling these requirements, along with qualifications for a co-op experience and co-op course registration procedures.

## Obtaining Co-op Education Assignments

The College has been quite successful in placing students in cooperative education jobs; however, there is no absolute guarantee of initial or continuing employment. The employer is solely responsible for decisions about hiring, retention, dismissal, promotion, or demotion of a cooperative education student. Initial and continuing employment depends on the skills, aptitudes, and behaviors the individual student offers to each potential employer.

## Withdrawal From Co-op/Clinical Experience

If a student is removed from a cooperative education or clinical experience course due to unsatisfactory performance, and the student subsequently withdraws from that course, the faculty member responsible for the course, with the approval of the division dean, may remove the W and assign a grade of U (unsatisfactory) or F (failure).

# Graduation Requirements

## Graduation Requirements

To qualify for an associate's or bachelor's degree, a student must be admitted to a degree program, complete the program requirements as identified in the Degree Audit curriculum, attain at least a 2.0 cumulative and program grade point average (GPA), and (if applicable) submit a petition to graduate. Completion is defined as earning the grade A, B, C, D, or S for any course. An earned D may not count toward graduation, depending on program and/or division policies.

To qualify for a certificate, a student must be admitted to a certificate program, complete the program requirements as identified in the Degree Audit curriculum, attain at least a 2.0 cumulative and program GPA, and (if applicable) submit a petition to graduate. Completion is defined as earning the grade A, B, C, D, or S for any course. An earned D may not count toward graduation, depending on program and/or division policies.

## General Education Requirements

Students seeking the degree Associate of Applied Business (AAB), Associate of Applied Science (AAS), Associate of Individualized Study (AIS), Associate of Technical Study (ATS), or Bachelor of Applied Science (BAS) should consult the curriculum for their program, published elsewhere in this Catalog, to determine how the general education requirements should be met. Individual degree programs

may require students to complete program-specified general education courses, or may permit students to choose some general education elective courses.

Transfer credit for social sciences or humanities courses completed at another institution, in disciplines not listed below, may be applied toward Cincinnati State graduation requirements, with the program chair's and division dean's permission.

As part of the graduation requirements for the Associate of Applied Business (AAB), Associate of Applied Science (AAS), Associate of Individualized Study (AIS), Associate of Technical Study (ATS), and Bachelor of Applied Science (BAS) degrees, a student must complete at least 15 credit hours in general education areas, distributed as follows:

Communication Skills	6
	credits
Arts/Humanities, Natural Sciences, and Social Sciences	6
	credits
Mathematics	3
	credits

## Communication Skills - 6 credits

6 credits Written Communication department code ENG

## Arts/Humanities, Natural Sciences, Social Sciences - 6 credits selected from two of these areas:

### Arts/Humanities, including:

Art	department code ART <sup>2</sup>
Communication	department code COMM <sup>1</sup>
Culture Studies	department code CULT
Foreign Languages	department code FRN,SPN
Literature	department code LIT
Music	department code MUS <sup>2</sup>
Philosophy	department code PHI
Religion	department code REL
Theatre	department code THE <sup>2</sup>

<sup>1</sup> Excluding COMM 110

<sup>2</sup> Excluding studio or performance-based courses.

### Natural Sciences, including:

Biology	department code BIO
Chemistry	department code CHE
Environmental Science	department code EVS
Physics	department code PHY
Physical Science	department code PSC

### Social/Behavioral Sciences, including:

Economics	department code ECO
Geography	department code GEO
History	department code HST
Labor Relations	department code LBR
Political Science	department code POL

Psychology	department code PSY
Sociology	department code SOC

## Mathematics - 3 credits

3 credits Mathematics department code MAT

Students seeking the Associate of Arts or Associate of Science degree must meet the general education requirements described for these degrees elsewhere in this Catalog.

## Alternative Versions of Courses

Cincinnati State offers some courses in more than one version. Alternative versions are identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- The "A" version of a course has additional class time for activities to support student success.
- The "A" version of the course meets all requirements of the course without the added letter.
- In curriculum information within this Catalog, only the course number without the added letter is displayed.

## First Year Experience (FYE) Requirement

All Cincinnati State students who enroll in a degree program are required to complete one First Year Experience (FYE) course: FYE 100 College Survival Skills, FYE 105 College Success Strategies, or FYE 110 Community College Experience.

The orientation course must be completed as part of the first semester of classes taken at Cincinnati State. Students in the Cincinnati State Honors Program fulfill the orientation course requirement by completing HNR 100 Orientation to Honors.

Some certificate programs also require students to complete FYE 100 College Survival Skills, FYE 105 College Success Strategies, or FYE 110 Community College Experience. Each certificate program that requires completion of an orientation course is indicated in the curriculum published in this Catalog.

The orientation courses FYE 100 College Survival Skills, FYE 105 College Success Strategies, and FYE 110 Community College Experience introduce students to the college experience and to Cincinnati State's expectations and resources for new students.

## Graduation Honors

Associate's or Bachelor's degree candidates who earn at least 30 semester credit hours at Cincinnati State and achieve a cumulative grade point average of 3.500 or higher will graduate with honors. Honors are classified as follows:

Cum Laude	3.500 - 3.799
Magna Cum Laude	3.800 - 3.899
Summa Cum Laude	3.900 - 4.000

Honors designations in the printed program at the commencement ceremony are projected based on cumulative GPA calculations made at the end of the Fall semester. The student's GPA at the conclusion of their degree requirements will determine the final honors designation.

## Graduation Process

The Office of the Registrar is responsible for monitoring student progress in completing degree and certificate requirements.

Students will be graduated at the end of the semester in which they complete all requirements for a degree or certificate. A student cannot reverse their graduated status after it has been conferred by the Office of the Registrar.

A student who graduates will receive his/her diploma or certificate by mail after the conclusion of the semester when requirements were completed.

**Note:** Graduation conferred by the Office of the Registrar is not the same as participating in the College's annual commencement ceremony. (See Participation in Commencement, below.)

**Registrar's notification to pending graduates:** Students will receive email notification from the Registrar during the sixth week of the semester in which they are enrolled in the courses needed to complete their degree or certificate. The notification will confirm that pending successful completion of those courses, the student will graduate from applicable degree or certificate programs.

If a student does not wish to graduate, for any reason, he/she may opt out for the current semester. The student will automatically be placed in the group of those eligible for graduation at the end of the next semester.

**Graduation petition:** Students who believe they are eligible for graduation at the end of the current semester who do not receive notification from the Office of the Registrar can complete a "Petition to Graduate" form available through MyServices. The Registrar and the appropriate academic program chair will review the petition and the student will be notified of the petition outcome.

**Student preparation for graduation:** During the semester when they expect to complete their final courses required for graduation, students should:

- Check My Profile in MyServices to make sure these items are accurate:
  - academic degree and/or certificate programs
  - mailing address
- Monitor Cincinnati State email for communication from the Registrar regarding graduation.

## Participation in Commencement

A student may participate in the annual commencement ceremony if he or she meets all of the following requirements:

- The student will satisfactorily complete all requirements for an associate's or bachelor's degree during or before the semester immediately preceding commencement, or the student can complete all remaining degree requirements during the semester immediately following commencement. The ability to complete requirements in the semester immediately following commencement is defined as needing no more than 15 credits, which may include the final cooperative education, clinical, or internship placement.
- Students earning a certificate which requires 24 or more credits may participate in commencement if all certificate requirements will

be completed during or before the semester immediately preceding commencement.

- The student has submitted an Intent to Participate in Commencement form online in MyServices by the published deadline.

## Program Graduation Requirements (Degree Audit Curriculum)

Requirements for each degree and certificate program at Cincinnati State are published each year in this Catalog. A student is expected to fulfill the requirements in effect for the catalog year in which they are admitted to the program. This set of requirements may be referred to as the student's Academic Evaluation or Degree Audit curriculum. Students can review a copy of their Degree Audit curriculum using the MyServices section of the Cincinnati State website.

A student readmitted to the College after an absence of a year or more is expected to fulfill the requirements in effect at the time of readmission. Any course substitutions or waivers granted prior to readmission will not carry forward and apply toward the new requirements. Students who requested course substitutions or waivers previously must request them again and ask that they be applied toward the new catalog year.

Students should consult with their program chair or academic advisor to discuss any changes made to program requirements that could affect progress toward completing the degree or certificate program.

In situations where coursework is five years old or older, or where requisite skills may have been lost, courses previously taken are subject to review by the program chair and dean. Those courses reviewed that do not meet current program requirements and standards will not count toward degree or certificate requirements.

## Using the Same Course to Meet Multiple Degree or Certificate Requirements ("Double Dipping")

In determining the credits earned for a degree or certificate, a single course cannot be used to satisfy two different requirements for one degree or certificate. Courses designated in the College catalog as "repeatable for credit" may be applied as appropriate to satisfy differing degree/certificate requirements.

A student who previously completed a degree or certificate at Cincinnati State, and is now earning a different degree or certificate, may be able to apply courses completed for the previous degree or certificate to the requirements for the current degree or certificate.

Students should consult with their program chair or academic advisor to ensure that courses are appropriately applied to meet degree or certificate requirements.

## Residency Requirement for Certificate Programs

To qualify for a certificate, students must be admitted to a certificate program, fulfill the certificate program requirements, complete a minimum of 50 percent of their certificate program requirements at Cincinnati State, attain at least a 2.0 cumulative and program GPA, and (if applicable) submit a petition to graduate.

## Residency Requirement for Degree Programs

Students seeking a degree at Cincinnati State Technical and Community College, except those seeking the Associate of Technical Study degree or Associate of Individualized Study degree, must complete at least 30 credit hours of college-level coursework at Cincinnati State.

For students seeking an Associate of Applied Business or Associate of Applied Science degree, at least 15 of the 30 credit hours described above must be college-level, technical coursework (as identified in the associate's degree program Academic Evaluation) required for their program at Cincinnati State. The resident credit hours required for the degree program are applicable to the College residency requirement.

Advanced standing credit is not applicable to the College residency requirement. Credit earned at Cincinnati State through the Greater Cincinnati Collegiate Connection (formerly the Greater Cincinnati Consortium of Colleges and Universities) is applicable to the College residency requirement.

In Associate of Technical Study and Associate of Individualized Study programs, the residency requirement is that no fewer than 20 credits must be completed at Cincinnati State.

Students who transfer to Cincinnati State from another accredited Ohio college or university with a completed Transfer Module are subject to the guidelines in the State of Ohio Policy for Institutional Transfer (p. 349) statement found elsewhere in this Catalog.



# Student Rights and Responsibilities\*

In healthy communities organized along democratic principles, participants recognize rights as well as responsibilities. This section of the Catalog outlines certain rights and responsibilities as they apply to students, including:

- Discussion of Cincinnati State's embrace of a broad statement of Student Rights and Freedoms
- Specific legal rights that are detailed in state and federal law involving privacy and discrimination on the basis of race, gender, religion, sexual orientation, and the like.
- A student's right to be free from sexual harassment, and to enjoy a drug-free environment.

The section on responsibilities deals mainly with the Student Code of Conduct, the College's policy on responsible use of information technology and peer-to-peer file sharing, and other non-academic policies of the College.

The College's policy on Academic Integrity is covered in the Academic Policies and Procedures (p. 359) section of this Catalog.

## Student Rights

### Introduction

An important part of the mission of the College is the adherence to the principles of student rights and freedoms, as amplified by the "Joint Statement on Rights and Freedoms of Students," which was originally formulated in 1967 and subsequently modified by representatives of the American Association of University Professors, United States Student Association, Association of American Colleges, National Association of Student Personnel Administrators, National Association for Women Educators, and a number of other professional bodies.

These principles speak to the standards and responsibilities of the academic community to ensure student access to education; free discussion in the classroom; maintenance of student records; the freedom to form organizations that promote the common interests of students, and the freedom of inquiry and expression; student participation in institutional government; as well as expectations of student conduct, and the exercise of rights of citizenship. Complete copies of the statement are available from the Senior Director of Student Success and Development.

### Non-Discrimination Policy

Cincinnati State Technical and Community College affirms that no person shall, on the basis of race, color, religion, sex (including pregnancy, childbirth, or related medical conditions), gender, sexual orientation, gender identity or expression, national origin, age, disability (physical or mental), veterans status, marital status, ethnic origin, ancestry, social origin, social condition, political or religious ideas, political affiliation, creed, or military status, service, or military obligation, be denied the benefits of, or be subjected to discrimination under any educational program or activity conducted under its auspices. This shall extend to all employees.

Inquiries concerning the application of this policy may be referred to the Director of Human Resources, who is the designated Equal Employment Opportunity (EEO) Coordinator for the College.

Lawra Baumann  
Director of Human Resources  
Cincinnati State Technical and Community College  
3520 Central Parkway  
Cincinnati, Ohio, 45223-2690

(513) 569-1759  
lawra.baumann@cincinnatiastate.edu

### Dissemination Procedure

This policy shall be disseminated through the following means:

- Cincinnati State website
- College Catalog
- College Operations Manual
- Student Code of Conduct (by reference)
- Adjunct Handbook
- New Employee Orientation
- College-wide postings
- Admissions Book
- First Year Experience (FYE) course, required of all new students

### Grievance Procedures (Anti-Discrimination, Title IX and Section 504)

Any student, staff member, or faculty member who believes that any of the College's students, staff, faculty, or visitors have in any way discriminated against her/him may bring forward a complaint.

The complainant may file her/his complaint directly with the U.S. Department of Education (55 Erievue Plaza, Room 300, Cleveland, Ohio, 44114-1816), and/or use the internal grievance procedure set forth as follows:

#### Step 1

A discrimination complaint should first be made to the College's Title VI/Title IX/Section 504 coordinator within 10 school days from the date of the incident. The Title VI/Title IX/Section 504 coordinator will make all efforts to investigate and resolve the complaint within 30 days from the receipt of the complaint. This investigation, which could include interview of witnesses, will be conducted in an impartial manner.

#### Title VI/Title IX/Section 504 Coordinator:

Lawra Baumann  
Director of Human Resources  
Cincinnati State Technical and Community College  
3520 Central Parkway  
Cincinnati, Ohio, 45223-2690

(513) 569-1759  
lawra.baumann@cincinnatiastate.edu

#### Step 2

If the Step 1 resolution is not satisfactory to any involved party, that resolution may be appealed in writing to the College's Vice President of Administration, who functions as the final mediator at the local level,

within five school days from the date of the Step 1 decision. The Vice President's decision is final.

## Student Responsibilities (Student Code of Conduct)

### Introduction and Purpose

The Student Code of Conduct is established to foster and protect the core mission of the College, to foster the scholarly and civic development of the College's students in a safe and secure learning environment, and to protect the people, properties and processes that support the College and its mission.

The mission of the College is to provide student focused, accessible, quality technical and general education, academic transfer, experiential and cooperative education, and workforce development.

Misconduct such as cheating, plagiarism, fabrication, or other forms of academic dishonesty will be referred to the Dean or designee of the academic division in which the course is taught. The Academic Integrity Policy and Violations Procedure is provided in the Academic Policies and Procedures (p. 359) section of this Catalog.

### Prohibited Conduct

Though the following is not an exhaustive list, any student found to have engaged, or attempted to engage, in any of the following conduct while within the College's jurisdiction, shall be subject to disciplinary action by the College.

1. Disruption of, or interference with, any College activity, including teaching, administration, or other public service functions on or off campus, or other authorized non-College activities, when the act occurs on College premises;
2. Harassment. Violations of this policy include, but are not limited to:
  - a. Any act, display, or communication that reflects sexual misconduct, sexual and intimate partner violence, and stalking.
  - b. Any act, display, or communication that would cause a reasonable person to fear for his or her personal safety. This includes, but is not limited to, physical coercion or restraint.
  - c. Any act, display, or communication that causes substantial injury or distress on the part of the person or persons to whom it is specifically directed that results in the individual being deprived of educational activities or opportunities. This includes, but is not limited to, unwanted sexual advances or request for sexual favors.
  - d. Any attempt to repeatedly make contact, either in person or electronically, with a person over his/her stated objections, when such contact serves no legitimate purpose. This includes, but is not limited to, intentionally following another person in or about a public place or places.
3. Sexual harassment of any person (see Sexual Harassment Policy (p. 377) in this Catalog);
4. Public intoxication or the use, possession, sale, attempted sale, barter, exchange, gift, or distribution of alcoholic beverages except as expressly permitted by law and College regulations;
5. Attempted or actual theft of and/or damage to property of the College or property of a member of the College community or other personal or public property on campus;
6. Gambling, including unlawful games of chance for money or anything of value and the sale, barter, or other disposition of a ticket, order, or any interest in a scheme of chance by any name;
7. Solicitation, distribution, selling or promotion of materials on Cincinnati State owned or controlled property. Exceptions may be made for recognized student organizations after registering with the appropriate College official or with permission from the event scheduling office;
8. Failure to comply with the directions of College officials or law enforcement officers acting in the performance of their duties, and/or failure to identify oneself to these persons when requested to do so;
9. Leading or inciting others to disrupt scheduled activities in any campus building or area; or intentional obstruction that unreasonably interferes with freedom of movement, either pedestrian or vehicular; and/or infringing on the rights of others.
10. Permitting another person to use his or her College identification card, impersonating another person, or misrepresenting authorization to act on behalf of another person;
11. Knowingly instituting a false charge against another person;
12. Unauthorized use, alteration or in any way tampering with fire equipment, safety devices, or safety equipment;
13. Leaving children unattended while on campus;
14. Failure to comply with the official and proper order of a duly designated College official;
15. Using electronic or other means to make a video or photographic record of any person in a location where there is a reasonable expectation of privacy without the person's prior knowledge, when such a recording is likely to cause injury, distress, or damage to reputation. This includes, but is not limited to, taking video or photographic images in shower/locker rooms or restrooms. The storing, sharing, and/or distributing of such unauthorized records by any means is also prohibited;
16. Physical abuse (e.g., fighting), verbal abuse, threats, intimidation, stalking, coercion and/or conduct that threatens or endangers the health and safety of any person;
17. Use, possession, sale, attempted sale, barter, exchange, gift, or distribution of narcotic or other controlled substances, or drug paraphernalia, except as expressly permitted by law;
18. Misuse or misappropriation of College funds;
19. Acts of dishonesty, including, but not limited to, the following:
  - a. Furnishing false information to a College official or faculty member,
  - b. Forgery, alteration, or misuse of any College document, record, or instrument of identification,
  - c. Tampering with the election of any College-recognized student organization;
20. Hazing of any individual or organization as defined by the laws of the State of Ohio. Hazing is defined as an act that endangers the mental or physical health or safety of a student, or that destroys or removes public or private property, for the purpose of initiation, admission into, affiliation with, or as a condition of continued membership in a group or organization, for which the acts do not result in bodily injury to any person;
21. Theft or abuse of computer time, including, but not limited to:
  - a. Unauthorized entrance into a file to intentionally damage, disable, or impair computing or telecommunications equipment or software,

- b. Acquisition or use of software that does not adhere to applicable software licenses and copyright laws or is not consistent with College computer use policies,
  - c. Introduction of viruses or other destructive software in College computer facilities,
  - d. Unauthorized transfer of a file,
  - e. Unauthorized use of another individual's identification and password,
  - f. Use of computing facilities to interfere with the work of another student, faculty member, or College official,
  - g. Use of computing facilities to interfere with the normal operation of the College computing systems,
  - h. Any violation of the Cincinnati State Acceptable Use of Technology Policy (p. 388) found in this Catalog,
  - i. Use of computer facilities to send or view obscene or threatening messages and/or images,
  - j. Unauthorized access to secured computer labs;
22. Unauthorized or fraudulent use of the College name, seal, emblem, nickname, mascot, or motto;
  23. Unauthorized entry and/or occupancy of College facilities, including unauthorized possession, duplication, or use of keys to any College facility;
  24. Conduct which is disorderly, lewd, or indecent; breach of peace; or aiding, abetting, or procuring another person to breach the peace on College premises or at functions sponsored by, or participated in by, the College;
  25. Trespass on College grounds – unauthorized entry into restricted areas, entry into College buildings when College is closed to the public;
  26. Use, possession, or carrying of firearms (including, but not limited to, pistols, rifles, shotguns, or ammunition), incendiary devices, smoke devices, knives, explosives or other dangerous weapons while on College owned or controlled property, or at College sponsored or supervised activities, except by College Police and other law enforcement officers specifically authorized by the College;
  27. Any action that causes or attempts to cause a fire or explosion, including bomb threats, or any intentionally false reporting of a fire, or any tampering with the safety devices or the failure to leave College buildings during a fire alarm;
  28. The denial of services or access to activities to an individual because of his or her race, religion, age, national origin, gender, marital status, sexual orientation, or disability;
  29. Battery or physical abuse of any person resulting in bodily injury;
  30. Violation of a federal or state felony offense law or any off-campus illegal activity that could pose an imminent threat to the safety of any member of the College community;
  31. Violation of any College policy, prohibited conduct, federal or state misdemeanor offense, or equivalent offense under city or county law, involving no bodily injury or threat of bodily injury to any person;
  32. Smoking less than twenty-five (25) feet away from any College building entrance or HVAC intake vents (this includes e-cigarettes, vaping, and chewing tobacco).

behavior that violates the College's Student Code of Conduct which is brought to the attention of a College official will be treated as any other violation of the Student Code of Conduct.

## Sanctions for Violations of Prohibited Behaviors

1. Restitution: Compensation for loss, damage or injury to College property.
2. Educational Sanctions: An educational sanction requiring attendance or participation in a pre-arranged class, program, or activity designed to prevent behaviors via education. These could include work assignments, essays, community service, and other related educational assignments.
3. Formal Warning: Formal warnings emphasize to the student that further violations will result in progressive sanctioning.
4. Conduct Probation: Conduct Probation serves as a warning to students that they are not in good standing with the College, and that further violations of the Code of Conduct could result in additional sanctions up to and including Suspension or Dismissal.
5. Facility Suspension: The student no longer has the privilege of entering or using a particular facility or building for a specified period of time or until a specific condition is met.
6. Facility Expulsion: Facility Expulsion entails the permanent loss of privileges to use a building or facility for an unlimited period of time.
7. Loss of Privileges: Loss of Privileges entails denial of specified privileges for a designated period of time.
8. Suspension: Suspension entails the termination of a student's enrollment for a particular period of time or until specific conditions are met. Suspended students may not be present on College property or at College-sponsored events.
9. Dismissal: Dismissal entails the termination of a student's enrollment with the College. Dismissed students are prohibited from being present on College property or at College-sponsored events.

## Emergency Removal for Threatening or Disruptive Behavior

There will be occasions when, in the opinion of the instructor or other students, inappropriate classroom behavior by a student involves an imminent threat to safety or threatens to disrupt seriously the classroom education process. In these circumstances the instructor should immediately contact Cincinnati State Police and have the student removed from the class. The Cincinnati State Police will provide an Incident Report for the Student Conduct Code review. The instructor or staff member is also required to complete a police Incident Report outlining their perspective of the incident.

Threatening or disruptive behavior can be described in many ways. The definition will be left to the discretion of the classroom instructor or students at the time of the incident. In cases of uncertainty it is recommended to err on the side of safety. The incident will be immediately managed and the rights and safety of all will be protected.

If emergency removal of a student is prompted by a physical altercation or an arrest because of an on-campus incident, the student shall be immediately referred to the Senior Director of Student Success & Development and shall not return to class without permission from the Director.

## Social Media

Cincinnati State encourages students to join and participate in online communities and social media platforms. However, any online

## Interim Suspension

When the Senior Director of Student Success & Development or his/her designee has reasonable cause to believe that the student's presence on College premises or at a College-related or registered student organization activity poses a significant risk of substantial harm to the health or safety of others or to property, the student may be immediately suspended from all or any portion of College premises, College-related activities, or registered student organization activities. This interim suspension will be confirmed by a written statement and shall remain in effect until the conclusion of a full hearing or administrative decision, without undue delay, in accordance with the rules of the College. The student may, within three (3) working days of the imposition of the suspension, petition the Senior Director of Student Success & Development. The petition must be in writing, and must include supporting documentation or evidence that the student does not pose, or no longer poses, a significant risk of substantial harm to the health or safety of others or to property. A hearing on such petition will be conducted without undue delay by the Senior Director of Student Success & Development or his/her designee.

## Filing of Complaint and Initiation of Charges

Every formal complaint of a non-academic violation of the Student Code of Conduct shall be handled in accordance with the procedures described herein:

1. Any student, faculty member, staff member or College administrator may file a formal complaint against a student alleging a violation of the Student Code of Conduct.
2. A formal complaint must be reported by the complainant using the incident form which can be found at following web address: <https://publicdocs.maxient.com/incidentreport.php?CincinnatiState>. Any verbal complaint not placed in written form may be handled and disposed of by the Senior Director of Student Success & Development or designee in any informal manner that they deem to be appropriate. A written complaint alleging a violation of the Student Code of Conduct should be filed with the College as soon as possible following the discovery of the alleged violation. The written complaint must be filed within thirty (30) calendar days from the date upon which a College official becomes aware of the alleged violation and identifies the student(s) who allegedly committed the violation. Absent extraordinary circumstances, the College must initiate charges, if any, within one year of its filing.
3. All non-academic complaints will be referred to the Senior Director of Student Success & Development and/or his/her designee for investigation, mediation, and/or possible resolution. A temporary hold may be placed on a student's account pending an investigation, mediation and/or possible resolution.
4. After interviewing the accused student and all appropriate witnesses in the matter, and reviewing documentary and other evidence related to the matter, the Director may take the following actions:
  - Determine that no or insufficient grounds exist to believe that a violation occurred and dismiss the complaint.
  - Determine there are grounds to believe that a violation occurred, then discuss a resolution with the accused student, which may include the imposition of any sanctions.
  - Determine that sufficient grounds exist to believe that a violation occurred and forward the issue to the Student

Conduct Hearing Panel to conduct a formal hearing of the complaint. In the event of such a determination, the Director shall prepare a report, including a summary of the complaint and the issues involved, and list of potential witnesses and other persons believed to have information about the complaint.

5. If the Senior Director of Student Success & Development was involved either in the incident that gave rise to the allegation of a Code violation, or previously counseled the accused student or the complainant about the matter, the Provost may appoint a designee to hear the case.
6. If the matter is not resolved by the Senior Director in accordance with item 2, then the Student Conduct Hearing Panel will be convened within thirty (30) calendar days following notification to the accused student.

## Standard of Evidence

The standard of evidence used to determine responsibility is a "preponderance" ("more likely than not") of evidence. This determination is based on the greater weight of evidence and does not require a standard beyond a reasonable doubt.

## Due Process

In all situations students and student organizations will be assured of fair and equitable treatment through consistent adherence to the due process procedure as described herein:

1. Be notified of any complaint filed against the student.
2. Be heard in an unbiased non-threatening environment.
3. Know the identity of the complaining party (unless it will cause a clear and present danger to the complainant).
4. Be notified of any sanctions or actions in writing.
5. Be notified of the appeals process.

## Administrative Decision

Depending on the nature of the offense, a hearing will be with the Senior Director of Student Success & Development or his/her designee or an assembled hearing panel. However, in a case where a charged student admits such violations verbally or in writing, the student may request in writing to have a decision as to appropriate action made administratively by the Senior Director of Student Success & Development or designee. Following an administrative decision, the student retains the right to request an appeal of the original decision, but may do so only upon the grounds that the sanction is grossly disproportionate to the offense committed.

Following notification of charges, as student who has been charged is strongly encouraged to and shall be afforded the opportunity to meet with a College official who shall explain the College judicial process and discuss the charges with the student who has been charged.

Failure of the accused student to respond to the initiation of charges or schedule a preliminary meeting shall in no way prevent the College from scheduling and conducting a hearing in the absence of the accused student.

## Hearing Panel

If the Senior Director of Student Success & Development chooses to refer the case to a Hearing Panel, the panel will consist of:

- The Senior Director of Student Success & Development or his/her designee
- Two (2) faculty/staff members appointed by the Senior Director of Student Success & Development.

The Senior Director or designee will serve as the panel chairperson. The chairperson will not vote on a decision unless there is a tie.

Note: No hearing shall take place without a minimum of two (2) faculty/staff members and the non-voting chairperson.

## Notice of Hearing

If a hearing is to be held, the Senior Director will schedule a date and time for the Hearing Panel to convene to hear the complaint, taking into consideration the class schedule of the accused student and the availability of potential witnesses and Hearing Panel members. If at all possible, the hearing should take place within thirty (30) calendar days following the referral of the matter to the Senior Director. Written notification of the date, time, and location of the hearing may be hand delivered; sent by email to the accused student's official College email address; or mailed to the last known address of the student, either by certified mail or first class mail, no fewer than ten (10) calendar days prior to the hearing.

The accused student may request a postponement for reasonable cause, or a hearing separate from hearings for other accused persons. A request for a postponement for reasonable cause must be made in writing, include supporting rationale and be received by the person sending the hearing notification at least two (2) business days before the scheduled hearing. The student may also have an attorney or any other person of the student's choosing present at the hearing, but this person shall be an observer only and shall not participate in the hearing.

## Hearing Procedures

Although the procedural requirements are not as formal as those employed in criminal or civil proceedings in courts of law, to ensure fairness, the following procedures will apply and, be included within the hearing notice:

1. Attendance at hearings is limited to those directly involved or those requested by the Senior Director or designee or panel to attend. The Senior Director or designee or panel will take reasonable measures to assure an orderly hearing, including removal of persons who impede or disrupt proceedings.
2. The accused student may have an advisor throughout the hearing. The advisor may only counsel the student and may not actively participate in the hearing, unless clarification is needed as determined by the Senior Director or designee or panel.
3. The accused may submit a written statement; may invite relevant factual witnesses to attend and answer questions; may invite character witnesses to submit written statements, may, as approved in advance by the Senior Director or designee, invite character witnesses to testify in person; may ask questions of witnesses called by others; and shall be notified of potential witnesses to be called. The accused must also submit a list of potential witnesses, and identify those who are character

witnesses only, to the Senior Director or designee at least two (2) business days prior to the hearing. The College may present witnesses as well as question those presented by the accused.

4. Students are entitled to a presumption of innocence. Therefore, a student will not be found in violation unless a preponderance of the evidence supports the charge(s).
5. At the conclusion of hearing and review of all the information, including testimony, the accused student will be given the opportunity to make a closing statement. After the closing statement, the Hearing Panel will decide, by majority vote, outside the presence of the accused student and any other non-Hearing Panel members, whether the student violated the College Student Code of Conduct. At that time the Senior Director will provide information to the panel about any prior misconduct by the student. Based upon the panel deliberations and any additional information presented, the panel will decide on what appropriate sanctions will be imposed.
6. Sanctions should be commensurate with the violation(s) found to have occurred. In determining the sanction(s) to be imposed, the Senior Director or designee or panel should take into account any mitigating circumstances and any aggravating factors including, but not limited to, any provocation by the subject of the conduct that constituted the violation, any past misconduct by the student, any failure of the student to comply fully with previous sanctions, the actual and potential harm caused by the violation, the degree of intent and motivation of the student in committing the violation, and the severity and pervasiveness of the conduct that constituted the violation. Conduct, other than constitutionally protected expression, motivated by bias based on age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, may be considered an aggravating factor for sanctioning. Impairment resulting from voluntary use of alcohol or drugs (i.e., other than medically necessary) will also be considered an aggravating, and not a mitigating, factor. The Hearing Panel may recommend any of the sanctions set forth in the Potential Sanctions section of this Student Code of Conduct.
7. The decision of the Hearing Panel shall be placed in writing, and the Director will provide documentation that due process has been followed. The Director will notify the student formally by registered mail of the decision. In the same notification, the student shall be informed of the procedure by which to appeal the decision.

## Record of Proceedings

A single record consisting of written notes, tape recording, or other method selected by the Hearing Panel or Senior Director of Student Success & Development or his/her designee, will be made of all hearings. Such record will remain the property of the College but will be made available to the accused for review during the appeal period.

## Failure to Appear

If a student fails to appear for a scheduled conduct hearing with the Senior Director of Student Success & Development or for an appearance before the Student Conduct Hearing Panel, the case may be adjudicated and a sanction imposed in the student's absence. The Senior Director or Student Conduct Hearing Panel will consider the facts presented when making their decision. The student's absence will not be a factor in the determination. The Senior Director will then notify the student of the decision in writing. If the student is found in violation of the Student Code of Conduct and a sanction is applied, the sanction

must be completed by the student in the allotted time or a hold will be placed on the student's record in the student database.

## Failure to Complete a Mandatory Sanction

Failure to complete a required sanction is a serious offense at Cincinnati State. It is considered an additional violation of the Student Code of Conduct, and will usually result in more serious sanctions being imposed.

For failure to complete a sanction, a hold will be placed on the student's record in the student database, and any pre-registration activity may be deleted. Thus, it is very important for students to complete sanctions on time and avoid a hold being placed on their academic records or registration.

## Appeal Process

### Grounds for Appeal

An appeal may be based only upon one or more of the following grounds:

1. Procedural error;
2. Misapplication or misinterpretation of the rule alleged to have been violated;
3. Findings of facts not supported by a preponderance of evidence;
4. Discovery of substantial new facts that were unavailable at the time of the hearing; and
5. That the disciplinary sanction imposed is grossly disproportionate to the violation committed.

### Appellate Panel

Appellate panel will consist of:

Five (5) members of faculty and staff appointed by the Senior Director of Student Success & Development.

### Appeal Proceedings

1. The appellate panel shall dismiss the appeal if the appeal is not based upon one or more of the grounds set forth in the Grounds for Appeal section above.
2. The appellate panel may decide the appeal based upon a review of the record.
3. The appellate panel may request additional written information or an oral presentation from any relevant person(s) and then decide the appeal based upon the enhanced record.

### Minor Deviations from Procedure

A student and the Senior Director of Student Success & Development or designee may agree in advance to minor deviations from procedure. Such deviations are not then subject to appeal. Other minor deviations are acceptable as long as such deviations are not found upon appeal to be unreasonably harmful to the student.

## Confidentiality

Disciplinary matters are kept confidential to the extent required by law.

## Retention of Records

All non-academic student disciplinary records are maintained in the office of the Senior Director of Student Success & Development for a period of five (5) years. Expulsion records are kept forever, and all other files are purged after five years.

## Jurisdiction

The Code applies to the on-campus conduct of all students and registered student organizations. The Code also applies to the off-campus conduct of students and registered student organizations in direct connection with:

1. Academic course requirements or any credit-bearing experiences, such as internships, co-ops, field trips, study abroad, or student teaching;
2. Any activity supporting pursuit of a degree, such as research at another institution or a professional practice assignment;
3. Any activity sponsored, conducted, or authorized by the College or by registered student organizations;
4. Any activity that causes substantial destruction of property belonging to the College or members of the College community or causes serious harm to the health or safety of members of the College community.

The College reserves the right to administer the Code and proceed with the hearing process even if the student withdraws from the College, is no longer enrolled in classes, or subsequently fails to meet the definition of a student while a disciplinary matter is pending.

Students continue to be subject to city, state, and federal laws while at the College, and violations of those laws may also constitute violations of the Code. In such instances, the College may proceed with College disciplinary action under the Code independently of any criminal proceeding involving the same conduct and may impose sanctions for violation of the Code even if such criminal proceeding is not yet resolved or is resolved in the student's favor.

## Definitions

1. The term "COLLEGE" means Cincinnati State Technical and Community College.
2. The term "STUDENT" includes all persons taking courses (credit or non-credit) at the College, both full-time and part-time, pursuing undergraduate or professional studies, and those who attend other post-secondary educational institutions at a Cincinnati State Technical and Community College location. Persons who are not officially enrolled for a particular term but who have a continuing relationship with the College are also considered "students."
3. The term "FACULTY MEMBER" means any person hired by the College to conduct classroom activities.
4. The term "COLLEGE OFFICIAL" includes any person employed by the College performing assigned administrative or professional responsibilities.
5. The term "MEMBER OF THE COLLEGE COMMUNITY" includes any person who is a student, faculty member, College official or any other person employed by the College. A person's status in a particular situation shall be determined by the Senior Director of Student Success & Development.
6. The term "COLLEGE PREMISES" includes all land, buildings, facilities, and other property in the possession of or owned,

used, or controlled by the College including adjacent streets and sidewalks.

7. The term "ORGANIZATION" means any number of persons in a group who have complied with the formal requirements for College recognition or registration.
8. The term "JUDICIAL BODY" means any person or persons authorized by the Senior Director of Student Success & Development to determine whether a student has violated the student Code and to recommend imposition of sanctions.
9. The term "JUDICIAL ADVISOR" means the Senior Director of Student Success & Development or a College official authorized on a case-by-case basis by the Senior Director of Student Success & Development to impose sanctions upon students found to have violated the Student Code of Conduct. The Senior Director of Student Success & Development may authorize a judicial advisor to serve simultaneously as a judicial advisor and the sole member or one of the members of a judicial body. Nothing shall prevent the Senior Director of Student Success & Development from authorizing the same judicial advisor to impose sanctions in all cases.
10. The term "APPELLATE PANEL" means any person or persons authorized by the Senior Director of Student Success & Development to consider an appeal from a judicial body's determination that a student has violated the Student Code of Conduct or from the sanctions imposed by the judicial advisor.
11. The term "SHALL" is used in the imperative sense.
12. The term "MAY" is used in the permissive sense.
13. The term "POLICY" is defined as the written regulations of the College as found in, but not limited to, the College Catalog.
14. The term "CHEATING" includes, but is not limited to: (1) use of any unauthorized assistance in taking quizzes or examinations; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; or (3) the acquisition, without permission, of tests or other academic material belonging to a member of the College faculty or staff.
15. The term "PLAGIARISM" includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgement. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.
16. The term "PRIVILEGES" includes, but is not limited to: (1) use of College facilities (game room, fitness center, etc.), (2) ability to be on campus outside of class times.

**All statements in this Code of Conduct are announcement of present policy only and are subject to change at any time without prior notice.**

## Release of Information

### Release of Information

Federal law and Cincinnati State's own policies impose certain limitations on the information that may be released without a student's consent.

Cincinnati State, in accordance with the Family Educational Rights and Privacy Act of 1974 (FERPA), as amended, has designated

the following information regarding its students as directory (public) information that may be released without the written consent of the student:

- Name
- Program (degree or certificate)
- Participation in officially recognized activities and sports
- Weight and height of members of intercollegiate athletic teams
- Dates of attendance
- Degrees and awards received (including dates of graduation and major)
- Most recent previous educational agency or institution attended
- Enrollment status (part-time or full-time), including date(s) of change(s) in status if specifically requested.

All other information is confidential and will be released to individuals or agencies outside of the College only with written consent from the student, as otherwise required by law, or to Cincinnati State's academic partners as described below.

Students have the right to withhold directory information from the public if they desire. Each student who wants all directory information withheld is required to inform the Office of the Registrar in writing. At least five days should be allowed for processing such requests.

Upon receipt of a written request to withhold directory information, the Office of the Registrar will place a hold on the student's record alerting staff in the Office of the Registrar the student has requested that no information be provided. No information will be released, regardless of any authorizations the student has completed either before or after notification has been submitted to the Office of the Registrar.

Cincinnati State has established formal academic partnerships with several four-year colleges and universities to facilitate transfer of Cincinnati State associate's degree graduates to baccalaureate programs. Directory information plus addresses, telephone numbers, and e-mail addresses of Cincinnati State students who have achieved 80+ credit hours earned and a 2.00 minimum grade point average will be provided periodically to Cincinnati State's academic partners.

Cincinnati State receives many inquiries for directory information from various sources, including prospective employers, insurance companies, loan agencies, other institutions of higher education, government agencies, and news media. All students are advised to carefully consider the consequences of a decision to withhold directory information. If a student requests to have directory information withheld, the student is required to provide written consent to the Office of the Registrar for any and all information to be released. Students requesting that directory information be withheld are not able to register through the web registration service.

Photographs are taken and film or video recording of students at College events occurs throughout the academic year for informational, promotional, and recruitment purposes. Students who do not wish to be included in these visuals must inform the College Marketing Department prior to such events, and should make their wishes known if they are in the vicinity of such activity.

## Notification of Rights under the Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their educational records. They include:

1. The right to inspect and review the student's educational records within 45 days of the date that Cincinnati State receives a request for access. Students should submit to the registrar, dean, program chair, or other appropriate official a written request that identifies the record(s) they wish to inspect. The College official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the College official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to ask the College to amend a record that a student believes is inaccurate or misleading. The student should write to the College official responsible for the record, clearly identify the part of the record he or she believes should be changed, and specify why it is inaccurate or misleading.
  - If the College decides not to amend the record as requested by the student, the College will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to consent to disclosure of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is:
  - A person employed by the College in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel).
  - A person or company with whom the College has contracted (such as an attorney, auditor, or collection agent).
  - A person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.
4. A College official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.
5. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Cincinnati State to comply with the requirements of FERPA. The name and address of the office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, DC 20202-4605.

For more information, contact the Office of the Registrar by phone at (513) 569-1522 or by email [registraroffice@cincinnati-state.edu](mailto:registraroffice@cincinnati-state.edu).

## Health Insurance Portability & Accountability Act of 1996 (HIPAA)

Students may be required to provide medical or psychological records to Cincinnati State in order to document and receive certain

specialized services. These records are confidential and protected under the Health Insurance Portability and Accountability Act of 1996 (HIPAA) until they are provided to Cincinnati State. At that point they become education records and come under the protection of the Family Educational Rights and Privacy Act of 1974 (FERPA). Both of these acts have strict rules to protect personal confidential information. Questions regarding privacy and confidentiality issues should be addressed to the Office of the Registrar by phone at (513) 569-1522 or by email [registraroffice@cincinnati-state.edu](mailto:registraroffice@cincinnati-state.edu).

## Solomon Amendment

In compliance with the Solomon Amendment which became effective on April 1, 1997, Cincinnati State must supply the following information (if captured) to representatives of any branch of Federal Armed Forces for the purpose of federal recruiting:

- Student name
- Address
- Telephone number
- Major
- Date and place of birth
- Level of education
- Degree(s) received
- Prior military experience
- Most recent previous educational institution enrolled

Cincinnati State will release this information without the student's written prior consent only if it is required to do so in compliance with the Solomon Amendment, and upon the written request of an official representative of the Federal Armed Forces. Please review the Release of Information section above for information pertaining to the release of directory information.

## Non-Smoking Policy

For the purposes of this policy, smoking is defined as the burning of any type of tobacco product, including cigarettes, cigars, cigarillos, and pipes. This policy includes e-cigarettes and other forms of smoking substitutes which produce either a scented or unscented vapor. Cincinnati State has instituted the following policy regarding smoking on campus:

1. Smoking is prohibited in all Cincinnati State vehicles and all College buildings, including classrooms, lecture halls, laboratories, offices, work areas, study areas, reception areas, meeting rooms, lobbies, hallways, stairwells, elevators, eating areas, lounges, restrooms, covered walkways, breezeways and walkways between sections of buildings, bus-stop shelters, areas immediately adjacent to building and parking garage entrances, and exterior stairways and landings.
2. Smoking is prohibited within twenty-five (25) feet of any building entrance or HVAC intake vents, except for designated smoking areas. All tobacco products must be disposed in appropriate smoking receptacles— not on the ground.
3. Designated outdoor smoking areas are clearly marked with signs. They include (on the Clifton Campus):
  - Small loading dock area located at the front of the Main Building
  - Smokestack area located at the front of the Main Building



- Smoking area located off of the front courtyard
  - Courtyard located between the Main Building and the ATLC
4. Cincinnati State reserves the right to administer sanctions to any individual found in continuous violation of this policy, by referral through the College disciplinary process. Campus Police will oversee compliance with this policy; however, all faculty, staff, and students have a collective responsibility to promote the safety and health of the campus community and therefore share in the responsibility of enforcement.
5. Organizers and attendees at public events, such as conferences, meetings, public lectures, and athletic competitions using Cincinnati State facilities, will be required to abide by the College Smoking Policy.

## Sexual Misconduct Policy (Title IX)

### Policy Statement

Cincinnati State Technical & Community College (“the College”) is committed to fostering an environment that is free from all forms of sexual misconduct, including sexual assault and sexual harassment. In support of that commitment, the College takes steps to increase awareness of such misconduct, eliminate its occurrence on campus, provide support for survivors, diligently investigate all reports of sexual misconduct, and deal fairly and firmly with offenders.

The College complies with all state and federal discrimination laws, including Title IX of the Higher Education Amendments of 1972, the federal law that prohibits discrimination on the basis of sex in education programs and activities. The College’s Sexual Misconduct/ Title IX policy (“Policy”) is intended to ensure a safe and non-discriminatory educational and work environment.

**If you are in immediate danger, please call 911 or, if you are on campus, the Cincinnati State Police at 513-569-1558.**

### Who is subject to this Policy?

The Policy applies to all community members, including students, faculty, staff, affiliates, visitors, applicants for admission or employment, and independent contractors. Vendors and others who conduct business with the College or on College property are also expected to comply with this Policy. The Policy applies regardless of a person’s gender, gender identity, gender expression, sexual orientation, age, race, nationality, class status, religion, or other protected status.

This Policy applies both to on-campus and off-campus conduct if (i) the conduct was in connection with a College or College-recognized program or activity, or (ii) the conduct may have the effect of creating a hostile environment for a member of the College community.

Employees are also subject to the College Operations Policy 2.2. Consensual Sexual Relationship Misconduct. Students are also subject to the College Student Code of Conduct.

### Definitions, Generally

**Complainant** – The person making the allegations of sexual misconduct.

**Respondent** – The person against whom a complaint of sexual misconduct has been made.

**Reporter** – A person who has information that sexual misconduct may have been committed by a College student or a participant in a College program and who initiates a complaint.

### Definitions of Offenses and Prohibited Conduct

- **Sexual harassment** – Unwelcome sexual conduct of various types. Sexual harassment is a form of sex discrimination. It occurs in a variety of situations which share a common element: the inappropriate introduction of sexual activities or comments into the work or learning situation, the creation of relationships of unequal power and/or elements of coercion, such as requests for sexual favors as a criterion for granting work, study, or grading benefits. Sexual harassment may also involve relationships among peers of repeated sexual advances or demeaning verbal behavior resulting in a harmful effect on a person’s ability to study or work in the academic setting. In addition, third parties may submit claims if a sexual relationship unfairly confers preferential treatment to participant(s) in the relationship.
- **Sexual Violence** – Physical sexual acts perpetrated against a person’s will or where a person is incapable of giving consent (i.e., due to person’s age, use of drugs or alcohol, or because intellectual or other disability prevents the person from having the capacity to give consent). Different acts fall in this category including rape, sexual assault, sexual abuse, and sexual coercion.
- **Sexual Assault** – An offense that meets the definition of rape, fondling, incest, or statutory rape as used in the FBI Uniform Crime Reporting (UCR) program.
- **Sexual Misconduct** – Both non-consensual sexual contact and/or intercourse where the victim is not mentally or physically able to give effective, *informed consent*.
- **Domestic and Dating Violence** – Sexual violence that is physical and/or mental in form that occurs within a social relationship between two people, whether married or not.
- **Bullying and Cyber-harassment** – Any written, verbal, physical, or electronically-distributed act that one individual exhibits toward another where the behavior causes mental and/or physical harm; the behavior is such that it creates a severe, pervasive, persistent threatening educational or work environment.
- **Stalking and Cyberstalking** – A pattern of electronically-distributed information that knowingly causes another person(s) to believe the offender will cause physical harm and/or mental distress to the other person(s). Depending on the circumstance, such acts may be criminal in nature.
- **Consent** – clear, knowing, and voluntary. Consent is active, not passive, and it can be withdrawn at any time. Silence in and of itself cannot be interpreted as consent. Consent can be given by words or action as long as those words or actions create mutually understandable clear permission regarding willingness to engage in (and the conditions of) sexual activity.
- **Force** – The use of force to cause someone to engage in sexual activity is, by definition, non-consensual contact, and is prohibited. Force may include words, conduct, or appearance. Force includes causing another’s intoxication or impairment through the use of drugs or alcohol.
- **Incapacitation** – Incapacitation is the inability, temporarily or permanently, to give consent, because the person is mentally and/

or physically helpless due to drug or alcohol consumption, either voluntarily or involuntarily, or the person is unconscious, asleep, or otherwise unaware that the sexual activity is occurring.

- **Hostile Environment** – A hostile environment exists when sexual or sex-based harassment is sufficiently serious to deny or limit a student’s ability to participate in or benefit from the College’s programs or activities or has the effect unreasonably interfering an employee’s work performance or altering the terms and conditions of the employee’s employment. A hostile environment can be created by anyone involved in a College program or activity (e.g., administrators, faculty members, students, and campus visitors).

In determining whether sex-based harassment has created a hostile environment, the College considers the conduct in question from both a subjective and objective perspective. It will be necessary, but not enough, that the conduct was unwelcome to the student who was harassed. The College will also need to find that a reasonable person in the student’s position would have perceived the conduct as undesirable or offensive in order for that conduct to create or contribute to a hostile environment.

To determine whether a hostile environment exists for a student or employee, the College will consider a variety of factors related to the severity, persistence, or pervasiveness of the sex-based harassment, including: (1) the type, frequency, and duration of the conduct; (2) the identity and relationships of persons involved; (3) the number of individuals involved; (4) the location of the conduct and the context in which it occurred; and, (5) the degree to which the conduct affected the student’s education or the employee’s employment.

The more severe the sex-based harassment, the less need there is to show a repetitive series of incidents to find a hostile environment. Indeed, a single instance of sexual assault may be sufficient to create a hostile environment. Likewise, a series of incidents may be sufficient even if the sex-based harassment is not particularly severe.

## Reporting Sexual Misconduct

The College encourages all survivors to report incidents of sexual misconduct as promptly as possible so that the College can respond effectively. Students may report sexual misconduct to the Title IX Coordinator, the College’s Police Department, or any College administrator, dean, or faculty member. In general, when one of these offices receives a report, the College must commence an investigation. All reports of such incidents will be disclosed to the Title IX Coordinator.

However, the College recognizes that student complainants may be most comfortable disclosing sexual misconduct to a College employee they know well, such as a faculty member, coach, or advisor. Students are welcome to speak with them, but should understand that these individuals and many other faculty and staff members are considered “responsible employees” of the College. If they receive a report of sexual misconduct, they are required to inform the Title IX Coordinator about the incident.

The College defines a “responsible employee” to include supervisors and officials with significant responsibility for student and campus activities including, but not limited to, academics, athletics, discipline, and campus safety. Employees whose positions legally require confidentiality (e.g., Counseling Center staff) are not “responsible employees.”

Before a student discloses an incident of sexual misconduct, College faculty and staff will try to ensure that the student understands the employee’s reporting obligations – and, if the student wishes to maintain confidentiality, direct the student to confidential resources. Similarly, before a faculty or staff member discloses an incident of sexual misconduct, the person to whom the disclosure is to be made will endeavor to ensure that the faculty or staff member understands his or her reporting obligations. **If you are unsure of someone’s duties and ability to maintain your privacy, ask them before you talk to them.**

A person who experiences sexual misconduct has the option to report anonymously through the online **Maxient** report form; however, the College’s investigation and response to anonymous complaints likely will be limited. If the anonymous report includes a crime, it will be counted in the College’s crime statistics.

## Reporting Procedure

Any student or employee who believes that he or she has been the subject of sexual violence, sexual assault, dating/domestic violence, stalking, discrimination, or sexual harassment should report the incident or incidents to the Director of Human Resources, who also serves as the College’s Title IX Administrator. If the complaint is against that official, the Complainant should report the matter to the Provost’s office for referral to an alternate designee. The College encourages the timely reporting of any incident(s) of discrimination or sexual harassment.

- **Call:** 513-569-1565 and request the Director of Human Resources
- **Or Email:** [hr@cincinnati.edu](mailto:hr@cincinnati.edu) and indicate to the attention of the Director of Human Resources
- **Or file a Maxient incident report:** access the **Maxient** reporting system at <https://publicdocs.maxient.com/incidentreport.php?CincinnatiState>.

Individuals who believe they have experienced sexual harassment or assault are encouraged to seek medical treatment in order to preserve evidence and receive treatment for injuries, preventative treatment for sexually transmitted diseases, and other health services. Prompt medical attention will also increase the possibility that evidence can be preserved and collected in a manner that will assist in the prosecution of a criminal case or used to support the issuance of a protective order.

The College strictly prohibits retaliation against and intimidation of any person because he or she reported of an incident of sexual misconduct or is involved in the College’s response. The College will take strong disciplinary action in response to any retaliation or intimidation, and will pursue such discipline through the applicable student conduct policy or other disciplinary process and follow the applicable time frames within such policies or processes.

## Investigation

The College will endeavor to resolve all Title IX complaints or reports promptly. The investigation and resolution (including appeal) of all complaints or reports will generally be completed within 60 days. Extenuating circumstances, including the complexity and severity of a complaint, may exist that require the complaint process to extend beyond 60 calendar days. If the investigation and resolution exceed this time frame, the College will notify all parties of the need for additional time and best efforts will be made to complete the process in a timely manner.

Any faculty member or employee accused of sexual harassment or sexual misconduct is entitled to any due process which may be provided by other College policies or handbooks or applicable contracts or law. Any student accused of sexual harassment or sexual misconduct is entitled to due process in accordance with the College's Student Code of Conduct or other applicable policies or handbooks. (A student who is also a student worker will be subject to the procedures applicable to students and not to any procedures applicable to College employees.)

Once a complaint of sexual harassment or sexual misconduct has been made, the individual taking the complaint must gather important and relevant facts from the Complainant. If the Cincinnati State Title IX Coordinator is not the recipient of the complaint, the individual taking the complaint will generally contact the Cincinnati State Title IX Coordinator for guidance and assistance. In any event, the Cincinnati State Title IX Coordinator must be notified of the complaint within 24 hours or as soon as possible after the complaint is made.

The Cincinnati State Title IX Coordinator is responsible for conducting or overseeing a timely and thorough investigation of a complaint of sexual harassment or sexual misconduct. One or more other College employees or outside parties may be assigned to assist with and/or conduct the investigation.

The investigation must include a meeting with the Complainant, and discussions with any witnesses to the incident. The investigator will also meet with the Respondent to discuss the incident and provide him/her with an opportunity to respond. No questioning regarding the Complainant's prior sexual conduct with anyone other than the Respondent will be allowed. The Title IX Coordinator may include a second investigator in the separate meetings with the Complainant and Respondent.

A Respondent who is a third party to the College may not be entitled to a hearing; therefore, a decision of whether the College will continue its relationship with the third party will be made based on the initial evaluation of the allegation or formal investigation as appropriate.

To determine whether a particular act or course of conduct constitutes sexual harassment under this policy, the alleged behavior will be evaluated by considering the totality of the particular circumstances, including the nature, frequency, intensity, location, context, and duration of the questioned behavior. Although repeated incidents generally create a stronger claim of harassment, a serious incident, even if isolated, may be sufficient.

The proper exercise of academic freedom by a faculty member is not restricted by the College's prohibition against harassment. However, conduct that would otherwise constitute a violation of this policy will not be exempt from review, discipline, or other action merely because it occurs in a classroom or other academic setting.

The investigator will prepare a written report and complete record of all relevant issues, findings, and evidence. If the investigator is someone other than the Cincinnati State Title IX Coordinator, this report and record shall be forwarded to the Cincinnati State Title IX Coordinator.

At the conclusion of the investigation, and where applicable, upon receipt of the written report and record from another investigator, the Cincinnati State Title IX Coordinator will determine whether there is sufficient evidence to conclude that sexual harassment or sexual misconduct occurred. In order for the investigator to determine that sexual harassment or sexual misconduct occurred, the determination

must be supported by a **preponderance of the evidence**. A **preponderance of the evidence means that it is more likely than not to have occurred**. The Cincinnati State Title IX Coordinator will prepare a written report of the determination.

## Determination and Sanctions

When sexual harassment or sexual misconduct is determined to have occurred, steps will be taken to ensure that the behavior is stopped promptly, the effects, if any, are remedied, and that reoccurrence is prevented, whenever possible. Appropriate corrective action for the Respondent includes, but is not limited to, a requirement that he or she obtain counseling or complete other restorative activities or written reprimand, suspension, or other disciplinary action up to and including termination or expulsion. Corrective action against the Respondent will be carried out in accordance with applicable College policies, handbooks, code of conduct, or contract. A Complainant will be informed of the corrective action and/or discipline taken against the Respondent.

A Complainant may have rights under other College policies or handbooks to participate in a disciplinary hearing and/or appeal involving a respondent who has been determined to have engaged in sexual harassment or sexual misconduct. The Cincinnati State Title IX Coordinator will inform the Complainant of any such rights.

## Appeals

The Complainant or Respondent may request an appeal within ten (10) calendar days of the notification of the outcome of the conduct process by writing to the Title IX Coordinator. The written appeal request must clearly state the grounds for the appeal. Allowable grounds for appeal are (1) new and compelling evidence that was not available at the time of the investigation and any following proceeding or (2) a procedural error that substantially impacted the findings. Disagreement with the results is not sufficient grounds for an appeal. The Title IX Coordinator will refer the appeal to the Provost for review.

The Provost will review the investigation report and accompanying evidence to determine whether the evidence supports the results and whether College procedure was followed. The Provost will give his/her decision within ten (10) calendar days. The Provost's decision on the appeal is final and binding.

If the Provost has a conflict of interest in the matter, he or she may designate another Vice President to conduct the review.

## Substance Abuse Policy

Cincinnati State prohibits the unlawful manufacture, possession, use, or distribution of drugs on its property or as a part of its activities. Cincinnati State also prohibits the use or possession of alcoholic beverages on campus property except as authorized by campus policy. Students and staff may be accountable to both civil authorities and to the College administration for drug and alcohol-related actions which are a violation of federal, state, or local laws, or the College policy as stated below. In 1989, the College Board of Trustees approved the Drug-Free Workplace policy below.

## Policy for Drug-Free Workplace

The unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Cincinnati State

workplace. Employees who violate this prohibition are subject to disciplinary action up to and including immediate discharge.

All employees are obligated to the terms of this policy and must notify their immediate supervisor of conviction for any criminal drug statute violation occurring in the workplace no later than five days after such conviction.

Each employee of the College will receive a written copy of this policy statement regarding a Drug-Free Workplace and will be notified that, as a condition of employment, he or she must abide by this policy statement and notify the employer of any criminal drug statute conviction for a violation occurring in the workplace not later than five days after such conviction.

Upon receiving notice that an employee who is engaged in the performance of a federal contract has had any criminal drug statute conviction for a violation occurring in the workplace, Cincinnati State will notify the federal contracting agency within 10 days. The College will impose a sanction on, or require participation in, a drug abuse assistance/rehabilitation program by the convicted employee.

## Alcohol and the Law

Individuals have a responsibility to follow the laws of the city, state, and nation. Those who fail to live up to that responsibility face certain penalties. Some of the potential legal consequences of committing an alcohol-related criminal offense are listed in this statement.

**Open Container:** It is illegal to possess in public an open container of an alcoholic beverage. If convicted of this offense, the maximum penalty is a \$100 fine. Consumption of alcohol in a motor vehicle is a fourth degree misdemeanor with maximum penalties of 30 days imprisonment, a \$250 fine, or both.

**Providing Alcohol to an Underage Person:** A person who furnishes alcohol to an underage person is guilty of a first-degree misdemeanor. The maximum penalties associated with this offense are six months imprisonment, \$1,000 fine, or both. A social host, therefore, risks being fined and imprisoned when he or she furnishes alcohol to a person he or she knows or should know is not 21 years of age.

**Serving Alcohol at Campus Events:** Only students who are age 21 or older may serve alcohol at the Summit Restaurant or at events on campus where alcohol is served.

**Underage Consumption, Purchase or Possession of Alcohol:** The legal drinking age in Ohio for consumption of an alcoholic beverage is 21 years old. Anyone purchasing, possessing, or consuming alcohol prior to their twenty-first birthday is guilty of a first-degree misdemeanor. The maximum penalties associated with this offense are six months imprisonment, a \$1,000 fine, or both. A 20-year-old student, therefore, risks being imprisoned and fined when he or she decides to drink alcohol. No student under age 21 may consume alcohol on campus.

# Information Technology and Resources

## Acceptable Use of Technology

### Overview

Acceptable Use standards define what users may or may not do in the process of utilizing Cincinnati State information technology (IT) resources.

### Scope

This standard addresses the use of Cincinnati State communications services and the communication of information among Cincinnati State employees (full-time and part-time), students, contractors, and vendors.

Cincinnati State reserves the right to modify this standard from time to time at its discretion.

### Introduction

This policy contains the College's philosophy, policy, rules, and standards regulating the use of technology resources. It is the responsibility of all students and all who are employed by the College, whether they are employed as students, temporary personnel, contractors, consultants, staff, or faculty, to implement and comply with this policy and all other applicable regulations and to maintain the highest standard of ethics when dealing with information technology resources.

### General Statement

In support of its mission of teaching and community service, Cincinnati State Technical and Community College acquires, develops, maintains, and provides access to information technology and resources for students, temporary personnel, contractors, consultants, faculty, and staff. These resources include but are not limited to telecommunications systems (land lines, facsimile machines), computers, laptops, cell phones, computer terminals, peripheral computer hardware, software, networks (wired and wireless), and the information that can be accessed using these tools. These computing resources are intended for College-related use, including direct and indirect support of the College's instruction, research, and service missions; College administrative functions; student and campus life activities; and the free exchange of ideas.

The rights of free expression and academic freedom apply to the use of College computing resources. So, too, however, do the responsibilities and limits associated with those rights. All who use the College's computing resources must act responsibly, in accordance with the highest standard of ethical and legal behavior. Thus, legitimate use of computing resources does not extend to whatever is technically possible. Users must abide by all applicable restrictions, whether or not they are built into the client device, operating system, application software, or network and whether or not they can be circumvented by technical means.

This policy applies to all users of College computing resources, whether affiliated with the College or not, and whether the users access resources from on campus or remote locations. This policy applies equally to College-owned or College-leased technology resources. Additional policies may apply to specific computers,

computer systems, or networks provided or operated by specific units of the College or to uses within specific units.

## Policy

All College computing resource users must:

1. Comply with all federal, Ohio, and other applicable law; all generally applicable College rules and policies; and all applicable contracts and licenses. Examples of such laws, rules, policies, contracts, and licenses include: the laws of libel, privacy, copyright, trademark, obscenity, and child pornography; the Family Educational Rights and Privacy Act (FERPA); the Health Insurance Portability and Accountability Act (HIPAA); the Electronic Communications Privacy Act and the Computer Fraud and Abuse Act, which prohibit "hacking", "cracking", and similar activities; the College's Student Code of Conduct; the Cincinnati State Technical and Community College Operations Manual, faculty handbooks, and the College's sexual harassment policy; and all applicable software licenses. Users must respect copyrights, intellectual-property rights, and ownership of files and passwords. Unauthorized copying of files or passwords belonging to others or to the College may constitute plagiarism or theft. Accessing or modifying files without authorization (including altering information, introducing viruses or Trojan horses, or damaging files) is unethical, may be illegal, and may lead to sanctions. Users who engage in electronic communications with persons in other states or countries or on other systems or networks should be aware that they may also be subject to the laws of those other states and countries and the rules and policies of those other systems and networks. Users are responsible for ascertaining, understanding, and complying with the laws, rules, policies, contracts, and licenses applicable to their particular uses. Cincinnati State extends these policies and guidelines to systems outside the College that are accessed via the College's facilities (e.g., electronic mail or remote logins using the College's Internet connections).
2. Use only those computing resources that they are authorized to use and use them only in the manner and to the extent authorized. Ability to access computing resources does not, by itself, imply authorization to do so. Users are responsible for ascertaining what authorizations are necessary and for obtaining them before proceeding. Accounts, passwords, and other authentication mechanisms, may not, under any circumstances, be shared with, or used by, persons other than those to whom they have been assigned by the College.
3. Respect the finite capacity of those resources and limit use so as not to consume an unreasonable amount of those resources or to interfere unreasonably with the activity of other users. Although there is no set bandwidth, disk space, CPU time, or other limit applicable to all uses of College computing resources, the College may require users of those resources to limit or refrain from specific uses in accordance with this principle. The reasonableness of any particular use will be judged in the context of all of the relevant circumstances.
4. Limit the personal use of College computing resources and refrain from using those resources for personal commercial purposes or for personal financial or other gain. Personal use of College computing resources is permitted on a limited basis when it does not interfere with the performance of the user's job or other College responsibilities, and is otherwise in compliance with this and other College policy. College computing resources are not to be used for commercial purposes without written authorization from the College. In such cases, the College may require payment of appropriate fees. This usage does not include links to personal web pages. This usage is subject to monitoring by the ITS staff. Further limits may be imposed upon personal use in accordance with normal supervisory procedures. Any personal use of computing resources that disrupts or interferes with College business, incurs an undue cost to the College, could potentially embarrass or harm the College, or has the appearance of impropriety is strictly prohibited. Personal use that is strictly prohibited includes, but is not limited to, the following:
  - a. Violation of Law. Violating or supporting and encouraging the violation of local, state, or federal law is strictly prohibited.
  - b. Illegal Copying. Downloading, duplicating, disseminating, printing or otherwise using copyrighted materials, such as software, texts, music, and graphics in violation of copyright laws is strictly prohibited.
  - c. Operating a Business. Operating a business, directly or indirectly, for personal gain is strictly prohibited.
  - d. Accessing Personals Services. Accessing or participating in any type of personals ads or services, such as or similar to dating services, matchmaking services, companion finding services, pen pal services, escort services, or personals ads is strictly prohibited.
  - e. Accessing Sexually Explicit Material. Downloading, displaying, transmitting, duplicating, storing, or printing sexually explicit material is strictly prohibited.
  - f. Harassment. Downloading, displaying, transmitting, duplicating, storing, or printing material that is offensive, obscene, threatening, or harassing is strictly prohibited.
  - g. Gambling or Wagering. Organizing, wagering on, participating in, or observing any type of gambling event or activity is strictly prohibited.
  - h. Mass E-mailing. Sending unsolicited e-mails or facsimiles in bulk or forwarding electronic chain letters in bulk to recipients inside or outside the state environment is strictly prohibited.
  - i. Solicitation. Except for agency-approved efforts, soliciting for money or support on behalf of charities, religious entities, or political causes is strictly prohibited.
  - j. Damage or Theft. Any attempt by users to damage or disrupt the operation of computing equipment, communications equipment, or communications lines; or attempting to remove College owned or leased equipment without written approval of the Chief Information Officer (CIO) is strictly prohibited and will be subject to disciplinary action.
  - k. Participation in Online Communities. Any use of state-provided IT resources to operate, participate in, or contribute to an online community including, but not limited to, online forums, chat rooms, listservs, blogs, wikis, peer-to-peer file sharing, and social networks, is strictly prohibited unless organized or approved by the agency.
  - l. Internet Security. A public servant participating in an online community organized or approved by the agency shall adhere to the security requirements and policies of the College.
  - m. Unauthorized Installation or Use of Software. Installing, copying, or using software including, but not limited to, instant messaging clients and peer-to-peer file sharing software, or personally-owned software, without the approval of the CIO is

strictly prohibited. Installation and use of unlicensed software is strictly prohibited.

5. Refrain from stating or implying that they speak on behalf of the College and from using College trademarks and logos without authorization to do so. Affiliation with the College does not, by itself, imply authorization to speak on behalf of the College. Authorization to use College trademarks and logos may be granted only by Cincinnati State. The use of appropriate disclaimers is encouraged. Personal web pages linked to the College website should disclaim association with Cincinnati State.
6. Respect that there is no expectation of privacy. This policy serves as notice to users that they shall have no reasonable expectation of privacy in conjunction with their use of College provided IT resources. Contents of College computers may be subject to review, investigation, and public disclosure. Access and use of the internet, including communication by e-mail and instant messaging and the content thereof, are not confidential, except in certain limited cases recognized by state or federal law. The College reserves the right to view any files and electronic communications on state college computers, monitor and log all electronic activities, and report findings to appropriate supervisors and authorities.

While the College does not routinely monitor individual usage of its computing resources, the normal operation and maintenance of College computing resources requires the backup and caching of data and communications, the logging of activity, the monitoring of general usage patterns, and other such activities that are necessary for the rendition of service.

The College may also monitor the activity and accounts of individual users of College computing resources, including individual sessions and communications, without notice. This may occur:

- a. when the user has voluntarily made them accessible to the public, as by posting to Usenet or a website;
- b. when it reasonably appears necessary to do so to protect the integrity, security, or functionality of College or other computing resources or to protect the College from liability;
- c. when there is reasonable cause to believe that the user has violated, or is violating, this policy;
- d. when an account or device appears to be engaged in unusual or unusually excessive activity, as indicated by the monitoring of general activity and usage patterns; or
- e. when it is otherwise required or permitted by law

Any such individual monitoring, other than that specified in (a) above, or required by law, or necessary to respond to perceived emergency situations, must be authorized in advance by the Chief Information Officer (CIO) or his/her designee.

The College, at its discretion, may disclose the results of any such general or individual monitoring, including the contents and records of individual communications, to appropriate College personnel or law enforcement agencies and may use those results in appropriate College disciplinary proceedings

**Impeding Access:** Impeding the College's ability to access, inspect, and monitor IT resources is strictly prohibited. A user shall not encrypt or conceal the contents of any file or electronic communications on College computers without proper authorization. A user shall not set or manipulate a password on any College computer, program, file, or electronic communication without proper authorization.

**Misrepresentation:** Concealing or misrepresenting one's name or affiliation to mask unauthorized, fraudulent, irresponsible, or offensive behavior in electronic communications is strictly prohibited.

## Protection of College Data

Users of College information resources—especially faculty and staff—have a responsibility to protect sensitive information. This includes but is not limited to student and employee personal information and College financial data. All users are expected to report suspected or discovered security incidents, such as social engineering and virus attacks.

## Privacy and Security

Information technology provides important means of communication, both public and private. Users and system administrators must respect the privacy of person-to-person communication in all forms, including voice (telephone), text (electronic mail and file transfer), and image (graphics and television). The principle of freedom of speech will apply to public communications in all these forms.

The College employs various measures to protect the security of its computing resources and users accounts. However, users should be aware that the College does not and cannot guarantee such security.

Any use of College-provided IT resources that interferes with or compromises the security or operations of any computer system, or compromises public trust, is strictly prohibited. Privacy and security violations can be, but are not limited to the following:

- **Confidentiality Procedures.** Using IT resources to violate or attempt to circumvent confidentiality procedures is strictly prohibited.
- **Accessing or Disseminating Confidential Information.** Accessing or disseminating confidential information or information about another person without authorization is strictly prohibited.
- **Accessing Systems without Authorization.** Accessing networks, files or systems or an account of another person without proper authorization is strictly prohibited.
- **Disclosing Passwords:** Users are individually responsible for safeguarding their passwords, which means they are not to disclose them to another user.
- **Distributing Malicious Code.** Distributing malicious code or circumventing malicious code security is strictly prohibited.

## Enforcement of this Policy

The College demands a high standard of conduct for all students, faculty, and staff in the use of, and access to the College's information technology and resources. Anyone whose conduct misuses the College's information technology and resources is subject to College disciplinary action. This conduct includes, but is not limited to, the aforementioned policies and security and privacy concerns.

Alleged violations of this policy shall be dealt with in accordance with the procedures in the Cincinnati State Technical and Community College personnel policies described in the College Operations

Manual, College collective bargaining agreements, and the Student Code of Conduct. The College treats violations of this policy seriously and will pursue criminal and civil prosecution where appropriate.

Whenever it becomes necessary to enforce College rules or policies, an authorized administrator may: disallow network connections by certain computers (even departmental and personal ones); require adequate identification of computers and users on the network; undertake audits of software or information on shared systems where policy violations are possible; take steps to secure compromised computers that are connected to the network; or deny access to computers, the network, and institutional software and databases.

## Sanctions Regarding Misuse of Computing Resources Content

Users who violate this policy may be denied access to College computing resources and may be subject to other penalties and disciplinary action, both within and outside of the College. Violations will normally be handled through the College disciplinary procedures applicable to the relevant user. Alleged violations by students normally will be investigated, and the appropriate administrative office will normally impose any penalties or other discipline.

However, the College, through its information managers, may suspend or block access to an account prior to the initiation or completion of such procedures when it reasonably appears necessary to do so, and in order to protect the integrity, security, or functionality of College or other computing resources, or to protect the College from liability.

## Resources

This policy conforms to Ohio IT Policy ITP-E.8 "Use of E-mail, Internet and Other IT Resources."

## Student Recording and Distribution of Course Lectures and Materials

Students may not photograph, record (using audio or video technology), duplicate, reproduce, transmit, distribute, or upload or share via internet or website environments any class lectures, discussion, and/or other course materials, unless written permission has been obtained in advance from the instructor.

In the case of class discussions and/or presentations, permission must also be obtained from all students in the class and any guest speakers, if applicable. All participants must be informed in advance that activities will be recorded.

Students should review the course syllabus for instructions regarding the instructor's policy on class recordings. Unless directly authorized by the syllabus, any student wishing to record classroom activities must discuss this issue with the instructor and obtain written permission.

Any photograph or recording of class activities and/or materials is authorized solely for use as an educational resource by an individual student or, when permission is granted, with other students enrolled in the same class. Photographs and/or recordings may not be publicly exchanged, distributed, shared, or broadcast for any purpose.

Permission to allow a photograph or recording is not a transfer of any copyrights.

Violation of this policy may subject a student to disciplinary action under the College's Student Code of Conduct (p. 378).

Exception: it is not a violation of this policy for a student determined by the Office of Disability Services to be entitled to educational accommodations to exercise any rights protected under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, including needed recording or adaptations of classroom lectures, discussions, and/or course materials for personal research and study. However, all other restrictions on other use and/or distribution apply in such cases.

# Student Services\*

Cincinnati State provides an array of services and support for students.

Many of these services involve the academic life of the College. These services include academic advising, career counseling, and tutoring, as well as programs specifically designed to support the needs of veterans, international students, and other distinctive student groups

Student services also include offerings provided by the Student Activities Office. The staff members of the Student Activities Office assist student clubs and organizations and facilitate a wide range of student-focused events.

## Academic Support Services

### Academic Advising

Academic advising assists students in reaching their academic and career goals at Cincinnati State. Program chairs, academic advisors, other faculty members, and some staff members are assigned to guide students through activities such as:

- Setting academic goals
- Developing educational plans
- Selecting courses
- Providing information on transfer credits
- Understanding and meeting requirements for graduation
- Clarifying career and personal goals
- Explaining academic policies and procedures
- Addressing academic challenges
- Making appropriate referrals to campus support services

### Counseling Services

Cincinnati State Counseling Services promote student learning and development by providing counseling and referral services that address the developmental, career, and mental health needs of Cincinnati State students.

Counseling Services offered include:

**Assessment:** Help in identifying a student's needs, appropriate services, and a possible referral to community resources.

**Consultation:** Counselors are available for consultation with students, faculty, and administrators. Not every student concern is necessarily served best by the College's Counseling Services. If a counselor determines that a student may be better served through other resources, the student is referred to a related on-campus service or to a community resource or agency.

**Mental Health/Personal Counseling:** Enrolled students may take advantage of one-on-one, short-term counseling that is voluntary and focuses on personal concerns that impair a student's ability to function in a classroom setting. Mental health counseling and crisis intervention services are provided also.

For more information, contact the Counseling Services office in Main Building Room 171 (Clifton Campus), or call (513) 569-5779.

**Career Counseling:** The Cincinnati State Career Center in ATLC Building Room 215 (Clifton Campus) helps students clarify interests and values, assess skills, and learn about the world of work and continuing education opportunities.

### Disability Services

The College's Office of Disability Services works with students to ensure they receive academic accommodations in their courses. The primary goal of Disability Services is to guarantee that all students with disabilities have an equal opportunity in the pursuit of their educational objectives. Services and programs are available for students according to individual need.

Students with disabilities who need accommodations must first register with the Office of Disability Services and present appropriate documentation. Additionally, students must present their class schedules to the Disability Services Office at the start of the academic semester to determine appropriate accommodations.

Services available include test proctoring, note-taking, scribing, interpreting, assistive technology, advocacy, and providing audio text and Braille access, as well as referrals to other campus support services and to community resources.

For more information, contact the Office of Disability Services in Main Building Room 129 (Clifton Campus), or call (513) 569-1775.

### High School Equivalency Testing

Cincinnati State operates a High School Equivalency (HSE) Testing Center through the College's Educational Opportunity Center, as part of our mission to provide access to educational opportunities and to prepare individuals for success. Current testing options include GED, TASC, and HiSet. Additionally, the College maintains an extensive network of contacts with social service agencies and career centers throughout Greater Cincinnati.

For more information, call (513) 569-1830.

### Honors Program

The Honors Program is for highly-motivated, highly-qualified students enrolled at Cincinnati State. Students in the Honors Program participate in challenging coursework, close student-instructor interactions, and interdisciplinary and intercultural explorations.

The goal of the program is to enable qualified students to transfer to a four-year college or university or enter a professional field at a high level of ability by developing leadership, creativity, and cognitive skills that foster lifelong career success. Admission to the Honors Program allows students to enroll in specially designed Honors courses and to participate in cultural, social, scientific, and community events.

The Honors Program at Cincinnati State is open to all full-time and part-time degree-seeking students who meet Honors Program entrance criteria. For more information see the [Honors Program \(p. 333\)](#) description elsewhere in this Catalog.

### International Students Office

The International Students Office is responsible for developing programs to support and serve the international student community. Other services include:



- Assistance with obtaining, updating, and transferring the I-20 form
- Advising on admission processes and immigration regulation assistance
- Helping international students adapt to the campus environment and the community
- Referring international students to on-campus and external resources

For more information, contact the International Students Office in Main Building Room 196 (Clifton Campus), or call (513) 569-4769.

## Library

The Johnnie Mae Berry Library, named for the College's first librarian, provides library services to the College community. The library is open from 7:30 a.m. to 10 p.m. Monday through Thursday, 7:30 a.m. to 4:30 p.m. on Friday, and 10:00 a.m. – 2:00 p.m. on Saturday. The Library is closed on holidays and other days the College is closed. Hours are adjusted in Summer Semester and during College breaks.

Trained library staff members assist patrons in locating information and using the College's reference, circulation, and periodical collections. Help is also available by contacting the library via phone, chat, or email.

Along with standard print items, the library has a wide array of electronic resources available on- or off-campus via internet access. The library's online homepage is located at [www.cincinnati.edu/library](http://www.cincinnati.edu/library) (<http://www.cincinnati.edu/library/>). The library website provides access to:

- BLINK, the library's online catalog
- Full-text articles via numerous databases and the Electronic Journal Center
- Subject and course-specific Library Guides to assist with research 24/7
- Video tutorials to help students find books and articles and avoid plagiarism

On-campus patrons have access to 19 computers and 30 laptops located on the main level of the library.

Students may check out circulating books for 3 weeks and DVDs for 3 days by presenting a valid SurgeCard (ID card). Books may be renewed up to 6 times, provided no one has placed a hold on the item. DVDs are not renewable.

All circulating items incur fines of 50 cents per day if overdue. Items not returned within 30 days of being overdue will be billed at a rate of at least \$85 per item to cover the replacement and processing costs. Upon return of the overdue item, the charge is reduced to \$35 per item. All fines and bills are added to student accounts and can be paid at the Cashier's Office.

Cincinnati State is a member of the Ohio Library Information Network, also known as OhioLINK. This network provides access to a central catalog of the colleges and universities throughout Cincinnati and Ohio. Students can request books from any other OhioLINK library through this system. Items are usually delivered within 5 days and are checked out for 3 weeks and can be renewed up to 6 times. Overdue fines of 50 cents per day are charged for books borrowed from other

libraries. A bill of \$125 per item is generated for books overdue for 30 days, but the charge is reduced to \$50 if the item is returned.

The library's media collection provides a variety of popular and instructional videos that are available for students to check out for 3-day periods.

Laptops and Reserve items (including some textbooks) are available at the Check-Out Desk.

- Reserve textbooks check out for 2 hours and can be used in the library.
- Laptops check out for 4 hours and can be taken anywhere on campus. The laptops contain the software found in College computer labs and connect to the internet via a wireless network.
  - Laptop kits (including a laptop and charger) are available for 1-day check out and can be taken off-campus. (NOTE: Cincinnati State wi-fi is available only while on campus.)
  - A SurgeCard (ID card) is required for check-out.

Students with overdue laptops or reserve items are subject to a fine of \$5 for each hour the laptop or reserve item is late.

Four group study rooms inside the library are available for groups of two or more, for 2-hour periods. A variety of tables, desks, and carrels for individual study are present throughout the library.

Two coin-operated copiers are available in the library. Copies are 10 cents per page, but scanning to a student's external storage drive is free. Students can print documents from library computers and laptops using print funds allocated to their SurgeCard ID cards.

## MyServices

MyServices is the pathway to web-based student services at Cincinnati State. Through MyServices, students can register, add, and drop classes; view and print class schedules; make payments; check on financial aid status; view and print grade reports; and access a variety of other services. To access MyServices, go to the Cincinnati State website at [www.cincinnati.edu](http://www.cincinnati.edu) (<http://www.cincinnati.edu/>), and then choose MyCState. Log in with username and password, and then choose the MyServices tab.

## Study Abroad

To facilitate opportunities for study outside the U.S., Cincinnati State has affiliation agreements with the University of Arizona Yangtze International Study Abroad program (YISA) and International Studies Abroad (ISA). Students are not limited to these programs and are free to participate in other school/organization-sponsored programs.

For more information, call the International Students Office at (513) 569-4769.

## Tutoring Center, Math Center, and Writing Center

Cincinnati State provides tutoring services, at no cost, to any student enrolled at the College, as well as focused support for classes that involve math and writing.

The **Tutoring Center** is in Room 261 Main Building (Clifton Campus). The **Math Center** is in Room 228B Main Building (Clifton Campus).

The Tutoring Center and Math Center serve as resources to support, improve, and enhance student learning. In addition to faculty and staff volunteers and paid staff, student tutors provide peer-to-peer support. Student tutors have received an A or B in their coursework and must be recommended by Cincinnati State faculty members. Student tutors are trained to provide effective support.

Tutoring can be provided for most courses when students request assistance. Tutors can share ideas, interpret and clarify terms, answer questions, and guide students' efforts. However, tutors will not do the tutored student's homework. The student receiving tutoring must attend class regularly, read the textbook, be prepared for tutoring sessions, have relevant questions, and complete all homework assignments. These efforts will facilitate academic success.

For more information, email [tutoring@cincinnati-state.edu](mailto:tutoring@cincinnati-state.edu), or call (513) 569-1614.

The Cincinnati State **Writing Center**, located in Main Building Room 235 (Clifton Campus), offers student-focused instructional support, at no cost, to those whose coursework includes written assignments.

The Writing Center's mission is to provide students with the best help possible. Writing Center tutors are qualified, experienced writing instructors who teach a variety of classes at Cincinnati State or other institutions. They are familiar with the requirements and expectations of Cincinnati State courses involving writing.

Walk-in service is available at the Writing Center, but appointments are preferred. Students should log into their Cincinnati State account and use Starfish to schedule appointments with Writing Center instructors.

## TRIO Student Support Services

TRIO Student Support Services (SSS) is funded by the U.S. Department of Education through a grant. The goal of TRIO Student Support Services at Cincinnati State is to increase college retention and graduation rates among the participants, and help students learn to progress from one level of higher education to the next.

TRIO SSS provides educational opportunity for first generation, low-income, and disabled students. Students are admitted to the program because of a level of academic need that is based on transcript data, study skills mastery, college and career goals, understanding of financial aid, test scores, college readiness, ESL (if applicable), and/or other issues that can affect the student's ability to succeed in college.

TRIO SSS provides eligible students with individualized academic resources and advising to develop academic plans and goals, and enhance the student's college experience by creating an institutional climate of support.

For more information contact the TRIO SSS office in Main Building Room 131B (Clifton Campus), or call (513) 569-4797.

## TRIO Educational Opportunity Center

The TRIO Educational Opportunity Center (EOC) is funded by the U.S. Department of Education through a grant. The purpose of the TRIO Educational Opportunity Center is to assist students age 19 and older who are first generation and low income to enter post-secondary education programs.

EOC services include college selection counseling, admission process assistance, FAFSA and financial aid documents, scholarship searches, career counseling, and referrals to support resources.

Additionally, EOC administers High School Equivalency (HSE) examinations and makes referrals to related community resources to prepare for the test. Other services include help preparing for the Accuplacer assessment and tutoring to brush up on math and language skills.

For more information, contact the TRIO EOC Office in Main Building Room 133 (Clifton Campus), or call (513) 569-1817.

## Veteran Student Affairs

The Office of Veteran Student Affairs at Cincinnati State offers assistance to veterans, eligible dependents, and selected reservists who wish to initiate, continue, or resume using their VA educational benefits.

The office provides benefit counseling, assistance with filing educational claims to the Department of Veterans Affairs, admission advising, and referrals to other support services on campus and in various community agencies. The office also monitors student degree plans and graduation progress.

The State Approving Agency for Veterans Training has approved Cincinnati State for the education and training of veterans and all their dependents under all existing public laws.

Cincinnati State complies with all regulations set forth by the Veterans Administration, including, but not limited to, the Veterans Benefits and Transition Act of 2019 for Chapter 31 (Vocational Rehabilitation and Employment Program) and Chapter 33 (Post-9/11 GI Bill) eligible veterans.

Cincinnati State will not impose any penalty on Chapter 31 or Chapter 33 recipients due to the delayed disbursement of a payment by the U.S. Department of Veterans Affairs, including penalties such as the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a Chapter 31 or Chapter 33 recipient borrow additional funds to cover the individual's inability to meet his or her financial obligations to the institution.

For more information, contact the Veteran Student Affairs Office in Main Building Room 135 (Clifton Campus), or call (513) 569-1543.

## Campus Life Services

### Student Activities

The Office of Student Activities, located in ATLC Building Room 204 (Clifton Campus), provides services and programming for all students. These activities provide experiential learning options outside the classroom, promoting lifelong learning and building skills needed for academic success and college completion.

Student Activities provides opportunities for students to participate in a diverse range of activities and events on- and off-campus, including club/organization memberships as well as social and educational events. Students are encouraged to get involved in the planning and implementation of campus events and social activities.

Upcoming campus events are announced to students via College email and social media accounts, events calendars, and notices posted on-campus.

## Clubs and Organizations

Students are encouraged to join clubs and organizations that appeal to their academic and social interests. Student organization offices are located in the Office of Student Activities.

New clubs and organizations must be chartered through the Office of Student Activities and the Student Government. Additional information is available from the Office of Student Activities.

### Current student clubs and organizations are:

Adult Learners on Campus  
 American Culinary Federation Junior Chapter at MCI  
 American Society of Civil Engineers  
 Believers Love World  
 Black Male Initiative  
 Brew Crew  
 Cincinnati State Auto Club  
 Cincinnati State Baja SAE  
 Cincinnati State Beekeeping Club  
 Cincinnati State Biology Club  
 Cincinnati State Chapter of SkillsUSA  
 Cincinnati State Cheer Team  
 Cincinnati State Chemistry Club  
 Cincinnati State Gamers Club  
 Cincinnati State Historical Society  
 Cincinnati State Women's Network  
 Cincy4Christ  
 Creative Writing Club  
 Early Childhood Club  
 Environmental Club  
 Food Pantry Club  
 Health & Fitness Club  
 Honors Student Club  
 Horticulture Club  
 In the Zone  
 International Student Association  
 Interpreter Training Club  
 Leadership Club  
 Nursing Student Organization  
 Phi Theta Kappa  
 President's Ambassador Club  
 Psychology Club  
 Respiratory Care Club  
 Society of Women Engineers  
 Spanish Club  
 Student Occupational Therapy Association (SOTA)  
 Student Government

## Student Government

All students are encouraged to attend Student Government meetings. The Student Government is involved in student activities and acts as a liaison between students and the College administration. Additional information is available through the Office of Student Activities.

## Surge Cards

Every student enrolled in classes is required to have a College identification card (SurgeCard) with them at all times for security purposes. The initial SurgeCard is free and is available from the Student Activities Office in ATLC Building Room 204 (Clifton Campus), after a student has registered for classes that semester.

The SurgeCard is required to use some campus services such as the Library, the Fitness Center, computer lab printing, and admission to College sports activities. Additional uses for the SurgeCard include the bookstore, food services, day care door access for qualified parents, and other services.

Every registered student receives a credit for \$15.00 on their SurgeCard each semester to be used for printing documents in College computer labs.

To replace a lost SurgeCard, go to the Cashier's office on the ATLC Building Second Floor (Clifton Campus) and pay a \$10.00 fee. Bring the receipt for this payment to the Student Activities Office and a replacement SurgeCard will be issued.

A SurgeCard is required to obtain information about available financial aid funds that can be used to purchase books in the College bookstore. Financial aid funds are never deposited on the SurgeCard.

More information about SurgeCards is available from the Student Activities Office, or phone (513) 569-5747.

# Course Descriptions

## This Catalog contains descriptions of all current Cincinnati State courses.

- Click on a **program code** or **department code** below to see the list of all courses offered by that program or department.
- Be aware that not every course is available every semester. For more information about course scheduling, talk to the Program Chair or an Academic Advisor.
- Each degree program that includes **cooperative education** and/or **internship** experiences has a set of assigned courses that are included in this Catalog. Each time a student registers for a co-op or internship experience, a different course number will be required, using the numbering system below:
  - **Part-Time** co-op registration uses course numbers 191 through 196
  - **Full-Time** co-op registration uses course numbers 291 through 293
  - **Internship** registration uses course numbers 294 and 295
  - **Clinical experience, directed practice, practicum, and other types of experiential learning courses** in various degree programs use varied course numbers. All of these courses are listed in this Catalog.
  - Students with questions about registration for co-op or another experiential learning course should talk to their academic Program Chair or Cooperative Education Coordinator for additional information.

## ACC

### Courses

#### ACC 101 Financial Accounting

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to financial accounting and financial reporting for business entities. Topics include: the accounting cycle, inventories, cash, receivables, plant assets, current liabilities, stock transactions, long-term liabilities, and cash flows.

Prerequisites: None

Ohio Transfer Assurance Guide Approved

#### ACC 102 Managerial Accounting

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to managerial accounting for business entities. Topics include: job-order and process costing, cost behavior and cost-volume-profit analysis, activity-based costing, budgeting, standard costs, performance evaluation, relevant costs, and capital budgeting.

Prerequisites: ACC 101

Ohio Transfer Assurance Guide Approved

#### ACC 110 Accounting Information Systems

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on documentation, design, and operation of accounting information systems. Topics include: internal control, business processes, flowcharting, information security, fraud detection, developing an accounting information system, and evaluating accounting software.

Prerequisites: ACC 101

#### ACC 115 Accounting Software Applications: Sage (Peachtree)

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on processing business transactions using Sage Accounting (Peachtree) software. Topics include: processing information; internal controls; reports; and activities related to the sales and cash receipts cycle, the purchases and cash disbursements cycle, and the payroll cycle.

Prerequisites: ACC 101

#### ACC 121 Computerized Bookkeeping: QuickBooks 1

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on processing transactions for small businesses using QuickBooks accounting software. Topics include: processing banking, customer, vendor, inventory, and payroll transactions; and generating and customizing financial reports. The course is delivered in a 7-week schedule.

Prerequisites: ACC 101

#### ACC 122 Computerized Bookkeeping: QuickBooks 2

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A continuation of ACC 121. Topics include: setting up a new company, processing transactions for the entire accounting cycle of service companies and merchandising corporations, processing bad debts, processing credit card sales, and budgeting. The course is delivered in a 7-week schedule.

Prerequisites: ACC 121

#### ACC 130 Payroll Procedures

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on payroll accounting and procedures. Topics include: payroll regulations and record keeping; computations of gross pay, employee withholdings and employer payroll taxes; and preparation of payroll tax returns.

Prerequisites: ACC 101

#### ACC 135 Financial Statement Analysis

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on understanding and interpreting corporate annual reports. Topics include: trend analysis, common size statements, and ratio analysis.

Prerequisites: ACC 101

#### ACC 140 Fund Accounting for Non-profit Organizations

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles and practices of accounting for non-profit organizations including government entities, school systems, colleges and universities, and charitable and religious organizations. Topics include: transaction analysis, appropriations, encumbrances, budgeting, and financial reporting.

Prerequisites: ACC 101

#### ACC 175 Federal Taxation: Individuals

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on federal income taxation as it relates to individual taxpayers. Topics include: elements of the tax formula, tax issues associated with self-employment, and depreciation. Students prepare multiple tax returns and related schedules.

Prerequisites: None

#### ACC 180 Federal Taxation: Business

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on federal income taxation as it relates to corporations, partnerships, and S corporations. Topics include: the elements of the tax formula, advanced tax issues, and property transactions. Students prepare multiple tax returns and related schedules.

Prerequisites: ACC 175

**ACC 191 Part-Time Cooperative Education 1: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**ACC 192 Part-Time Cooperative Education 2: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 191

**ACC 193 Part-Time Cooperative Education 3: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 192

**ACC 194 Part-Time Cooperative Education 4: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 193

**ACC 195 Part-Time Cooperative Education 5: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 194

**ACC 196 Part-Time Cooperative Education 6: Accounting****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 195

**ACC 201 Intermediate Accounting 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on theory and techniques of financial accounting. Topics include: preparing required financial statements and disclosures; accounting for cash, accounts and notes receivable, inventory, plant and equipment, and intangible assets; analyzing financial statements; and international standards.

Prerequisites: ACC 101

**ACC 202 Intermediate Accounting 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ACC 201. Topics include: liabilities, stockholders' equity, investments, revenue recognition, income taxes, pension, leases, changes and disclosures in financial reporting, international standards, and analyzing financial statements.

Prerequisites: ACC 201

**ACC 210 Cost Accounting****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles and practices of cost accounting related to manufacturing and services businesses. Topics include: overhead rates, absorption and variable costing, job-order and process costing, standard costing and variance analysis, joint costs, cost allocations, and cost management.

Prerequisites: ACC 102

**ACC 221 Volunteer Income Tax Assistant****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A service learning course on preparing federal and state income tax returns for low income and elderly taxpayers under the Internal Revenue Service Volunteer Income Tax Assistant (VITA) and Tax Counseling for the Elderly (TCE) programs. Students must successfully pass the IRS - VITA/TCE Certification - Basic Exam and are required to participate in the volunteer VITA program on campus. Topics include: individual taxes, tax interviews, and assisting in tax return preparation.

Prerequisites: ACC 175 or instructor consent

**ACC 230 Professional Ethics for Accountants****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the ethical obligations of accountants. Topics include: codes of conduct of various professional accounting organizations, accounting scandals, and ethical decision-making.

Prerequisites: ACC 201

**ACC 240 Bookkeeping Certification Review****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course that prepares students for the American Institute of Professional Bookkeepers Certified Bookkeeper examination. Topics include: adjusting entries, correcting accounting errors, payroll, depreciation, inventory, and internal controls and fraud prevention.

Prerequisites: ACC 101

**ACC 250 Advanced Taxation****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on advanced taxation concerns such as tax research; tax returns required for trusts, estates, and nonprofit organization; and requirements for professional tax preparers.

Prerequisites: ACC 180

**ACC 270 Auditing****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the objectives of auditing and assurance services. Topics include: impact of the Sarbanes-Oxley Act on the auditing profession, audit reports, auditing standards, professional ethics, evidence, audit planning and testing, and internal controls and systems documentation.

Prerequisites: ACC 201

**ACC 291 Full-Time Cooperative Education 1: Accounting**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**ACC 292 Full-Time Cooperative Education 2: Accounting**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 291

**ACC 293 Full-Time Cooperative Education 3: Accounting**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: ACC 292

## ADC

### Courses

**ADC 100 Drugs in Society**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the use and abuse of drugs and alcohol. Topics include: causes of drug abuse; and drug abuse prevention, early intervention, and treatment programs.

Prerequisites: None

**ADC 105 Addiction, Counseling, and Diversity**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A survey of addiction studies topics, emphasizing the importance of cultural competency in substance abuse counseling.

Prerequisites: ENG 085 or appropriate placement

**ADC 110 Pharmacology of Addiction**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on psychological and physiological effects of mood-altering substances. Topics include: physical and psychological characteristics of addiction; drug tolerance, dependency, and withdrawal; cross addictions; and drug interactions.

Prerequisites: ENG 085 or appropriate placement, and ADC 100 and ADC 105, or 15 RCHs and Program Chair consent

**ADC 115 Ethics in Addiction Treatment**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on ethical and legal issues in the field of substance abuse counseling. Topics include: the counselor as a professional, values and helping relationships, client rights and counselor responsibilities, and ethics and cultural sensitivity.

Prerequisites: ENG 085 or appropriate placement, and ADC 100 and ADC 105, or 15 RCHs and Program Chair consent

**ADC 120 Addiction Screening, Assessment, and Treatment**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on systematic approaches to addiction counseling. Topics include: making appropriate referrals, using community resources, collaborating in the counselor/client relationship, and planning and implementing treatment.

Prerequisites: ADC 100 and ADC 105

**ADC 125 Relapse, Treatment, and Prevention**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on factors that influence relapse in drug and alcohol abuse, and best practices for preventing and treating relapse.

Prerequisites: ENG 085 or appropriate placement, and ADC 100 and ADC 105, or 15 RCHs and Program Chair consent

**ADC 200 Dual Diagnosis: Substance Abuse and Mental Illness**  
**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on co-occurring psychiatric and substance abuse disorders and their impact on the individual, family, and community. Topics include: differential diagnosis of chemical dependency and mental disorders; assessment strategies; intervention approaches; and working with clients with dual disorders, including addicted trauma survivors.

Prerequisites: ADC 120

**ADC 205 Addiction Studies Practicum**

**2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students spend at least seven hours per week in a substance abuse/addiction facility that serves culturally, linguistically, and socio-economically diverse populations, under the supervision of a Licensed Certified Chemical Dependency Counselor, Licensed Independent Social Worker or other professional with a Master of Social Work degree.

Prerequisites: ADC 115, ADC 120, ADC 125

## AGR

### Courses

**AGR 100 Introduction to Urban Agriculture**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on practices for cultivating, processing, and distributing food in or near a village, town, or city. Topics include: history and politics of urban agriculture, and urban farm design.

Prerequisites: None

**AGR 105 Vegetable Crop Production**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and skills for production of vegetable crops.

Topics include: business principles of specialty crops including planning, budgeting, production and harvest. Students must attend off-campus field trips.

Prerequisites: None

**AGR 135 Fruit and Nut Production**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the classification, identification, and culture of fruit and nut trees and shrubs for food production. Field trips are required.

Prerequisites: None

**AGR 140 Farm Ecology Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on principles and practices for identifying, diagnosing, and controlling common insect, disease, and weeds in specialty crop production. Topics include: holistic pest management, organic farming principles, and farm policies.

Prerequisites: None

**AGR 150 Fall Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on producing, harvesting, storing, and selling fall crops, with emphasis on sustainable agriculture techniques.

Prerequisites: None

**AGR 155 Spring Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on producing, harvesting, storing, and selling spring crops, with emphasis on sustainable agriculture techniques.

Prerequisites: None

**AGR 160 Summer Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on producing, harvesting, storing, and selling summer crops, with emphasis on sustainable agriculture techniques.

Prerequisites: None

## AHT

### Courses

**AHT 100 Workflow and Information Design for Health****15 Credits. 13 Lecture Hours. 4 Lab Hours.**

A course on foundation concepts related to redesign of workflow and information management in health information technology systems.

Topics include: basics of computer science, health information management systems, networking, and health information exchange; culture and terminology of healthcare; usability and human factors; and quality improvement. The course is delivered through online instruction only.

Prerequisites: Admitted to WDC Health Information Technology training program

Instructor Consent Required

**AHT 105 Consulting for Health Information Technology****15 Credits. 13 Lecture Hours. 4 Lab Hours.**

A course on foundation concepts related to clinician and practitioner consulting in health information technology. Topics include: health information technology history and systems; public health; planning, management, leadership, and teamwork in health information technology; and quality improvement. The course is delivered through online instruction only.

Prerequisites: Admitted to WDC Health Information Technology training program

Instructor Consent Required

**AHT 110 Implementation Support for Health Information****15 Credits. 13 Lecture Hours. 4 Lab Hours.**

A course on foundation concepts related to implementing support for health information technology systems. Topics include: health information technology history; networking and health information exchange; installing and maintaining health information technology systems; configuring Electronic Health Records; and analyzing vendor-specific systems. The course is delivered through online instruction only.

Prerequisites: Admitted to WDC Health Information Technology training program

Instructor Consent Required

**AHT 115 Implementation Management for Health Information****15 Credits. 13 Lecture Hours. 4 Lab Hours.**

A course on foundation concepts related to managing the implementation of health information technology systems. Topics include: culture and terminology of healthcare; public health; customer service in healthcare; project management and teamwork in health information technology; and analyzing vendor-specific systems. The course is delivered through online instruction only.

Prerequisites: Admitted to WDC Health Information Technology training program

**AHT 120 Technical and Software Support for Health Information****15 Credits. 13 Lecture Hours. 4 Lab Hours.**

A course on foundation concepts related to providing technical and software support for health information technology systems. Topics include: basics of computer science and health information management systems; usability and human factors; installing and maintaining health information technology systems; configuring Electronic Health Records; and analyzing vendor-specific systems. The course is delivered through online instruction only.

Prerequisites: Admitted to WDC Health Information Technology training program

## AMT

### Courses

**AMT 100 Aviation Standard Practices****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course that uses FAA-approved instruction for foundation concepts and techniques in aviation maintenance. Topics include: fluid lines and fittings, materials and processes, and cleaning and corrosion control.

Prerequisites: ENG 085 or appropriate placement

**AMT 105 Aircraft Orientation****4 Credits. 2 Lecture Hours. 5 Lab Hours.**

A course on foundation concepts in aviation maintenance. Topics include: aircraft drawings, ground operations and servicing, mechanic privileges, and basic concepts of physics.

Prerequisites: ENG 085 or appropriate placement

**AMT 110 Aircraft Electricity****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course that uses FAA-approved instruction for foundation concepts and techniques in aviation maintenance. Topics include: basic concepts of math, physics, and electricity; aircraft drawings; and maintenance forms and records.

Prerequisites: MAT 093 or appropriate placement

**AMT 115 Aircraft Weight and Balance****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on foundation concepts and techniques related to aircraft weight and balance. Topics include: maintenance forms and records, and maintenance publications.

Prerequisites: MAT 093 or appropriate placement

**AMT 120 Aircraft Non-Metal Structures****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on wood structures, aircraft covering, aircraft finishes, and inspection of bonded structures.

Prerequisites: AMT 105

**AMT 125 Aircraft Metal Structures****5 Credits. 3 Lecture Hours. 5 Lab Hours.**

A course on repairing and maintaining sheet metal structures. Topics include: selecting and installing rivets and fasteners, forming and bending sheet metal, and laying out repairs.

Prerequisites: AMT 100 and AMT 105

**AMT 130 Aircraft Welding Processes****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on welding of magnesium, titanium, aluminum, and steel in aircraft. The course does not prepare students for certification specific to welding.

Prerequisites: None

**AMT 135 Aircraft Landing Gear Systems****5 Credits. 3 Lecture Hours. 5 Lab Hours.**

A course on repairing and maintaining aircraft landing gear systems and hydraulic and pneumatic power systems.

Prerequisites: AMT 105 and MAT 122 or appropriate placement

**AMT 140 Airframe Electrical Systems****6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course on troubleshooting aircraft electrical systems and inspecting direct current generators.

Prerequisites: AMT 105 and AMT 110

**AMT 145 Airframe Electronic Systems****2 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on aircraft instrument systems and communication and navigation systems.

Prerequisites: AMT 105 and AMT 110

**AMT 150 Airframe Systems****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on systems for cabin atmosphere and control, position and warning, ice and rain control, fire protection, and aircraft fuel.

Prerequisites: AMT 100, AMT 105, and AMT 110

**AMT 155 Airframe Assembly and Rigging****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on balancing rigging, and inspecting primary and secondary flight controls of rotor and fixed wing aircraft.

Prerequisites: AMT 100, AMT 105, and MAT 122 or appropriate placement

**AMT 160 Airframe Inspection****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on inspection of airframes and sheet metal structures, repair of sheet metal structures, and conformity inspections on rotor and fixed wing aircraft.

Prerequisites: AMT 105 and AMT 115

**AMT 191 Part-Time Cooperative Education 1: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 100

**AMT 192 Part-Time Cooperative Education 2: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 191

**AMT 193 Part-Time Cooperative Education 3: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 192

**AMT 194 Part-Time Cooperative Education 4: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 193

**AMT 195 Part-Time Cooperative Education 5: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 194

**AMT 196 Part-Time Cooperative Education 6: Aviation Maintenance Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 195



**AMT 201 Powerplant Maintenance 1****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in inspection and repair of radial engines; overhaul of reciprocating engines; and inspection, check, service and repair of reciprocating engines and engine systems.

Prerequisites: AMT 100 and AMT 105

**AMT 202 Powerplant Maintenance 2****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A continuation of AMT 201, using FAA-approved instruction for concepts and techniques in installation, troubleshooting, and removal of reciprocating engines; overhaul of turbine engines; and induction and engine airflow systems.

Prerequisites: AMT 201

**AMT 203 Powerplant Maintenance 3****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A continuation of AMT 202, using FAA-approved instruction in the subject areas of inspection, check, service, and repair of turbine engines and turbine engine installations; installation, troubleshooting, and removal of turbine engines; performing powerplant conformity and airworthiness inspection; engine exhaust and reverser systems; unducted fans; and auxiliary power units.

Prerequisites: AMT 202

**AMT 205 Starting and Ignition Systems****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in ignition and starting systems for reciprocating and turbine aircraft engines. Topics include: inspection, troubleshooting, and repair.

Prerequisites: AMT 105 and AMT 110

**AMT 210 Engine Fuel and Lubrication Systems****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in lubrication systems, fuel metering systems, and engine fuel systems.

Prerequisites: AMT 100 and AMT 105

**AMT 215 Aircraft Propellers****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course that uses FAA-approved instruction for concepts and techniques in removal, installation, inspection, and repair of fixed and variable pitch aircraft propellers and propeller governing systems.

Prerequisites: AMT 105 and AMT 115

**AMT 250 Unmanned Aerial Systems****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on constructing, assembling, inspecting, repairing, and maintaining a small unmanned aerial system (drone). Topics include: designing and constructing a platform, soldering circuit boards and electrical components, programming operating and control systems, assembling propulsion systems, and checking operations.

Prerequisites: None

**AMT 255 Unmanned Aerial Systems - Remote Pilot Certification****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on safely and legally operating an unmanned aerial system (UAS) as an operator, observer, and operations administrator in compliance with Federal Aviation Regulations. The course also prepares students to successfully complete the Federal Aviation Administration FAR Part 107 Remote Pilot certification exam.

Prerequisites: None

**AMT 270 Avionics Orientation****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on aircraft and avionics systems topics and terminology. Topics include: aircraft parts, aircraft axis and controls, flight controls, theory of flight, pre- and post-flight inspection, and ground movement and storage of aircraft. The course prepares students to successfully complete the National Center for Aircraft Technician Training exam for Aircraft Electronics Technician.

Prerequisites: None

**AMT 271 Avionics 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on concepts and skills for repair of avionics equipment. Topics include: procedures used by air carriers and repair stations; avionics publications, forms, and records; tools and equipment; buildup of wire bundles; review of Boolean Algebra; and ARINC codes.

Prerequisites: AMT 155

**AMT 272 Avionics 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of AMT 271. Topics include: logic gates, troubleshooting analog and digital electronic systems to line replicable units, amplifier theory, on-board navigation and maintenance computer systems, and intercom and passenger entertainment systems.

Prerequisites: AMT 271

**AMT 290 FAA General, Airframe, and Powerplant Certification Test Preparation****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course that prepares students to successfully complete the Federal Aviation Administration (FAA) General, Airframe, and Powerplant written, oral, and practical tests. To enroll in the course, student must be a graduate of a Part 147 school or hold FAA-signed Form 8610-2. Prerequisites: Graduate of a Part 147 school or hold FAA-signed Form 8610-2

**AMT 291 Full-Time Cooperative Education 1: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**AMT 292 Full-Time Cooperative Education 2: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 291

**AMT 293 Full-Time Cooperative Education 3: Aviation Maintenance Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 292

**AMT 294 Internship 1: Aviation Maintenance Technology**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 100

**AMT 295 Internship 2: Aviation Maintenance Technology**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AMT 294

## ART

### Courses

**ART 110 Introduction to Art**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of visual artistic expression in Western culture from ancient times to the present. Topics include: examining painting, sculpture, architecture, and other media for their style, function, and relationship to the historical and cultural developments of the period.

Prerequisites: None

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**ART 111 Art History: Ancient to Medieval Periods**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A survey of world art including major works of painting, sculpture, and architecture of the Ancient and Medieval periods.

Prerequisites: None

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Ohio Transfer Assurance Guide Approved

**ART 112 Art History: Renaissance to the Present**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A survey of world art including major works of painting, sculpture, and architecture of the Renaissance, Baroque, and Modern periods.

Prerequisites: None

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**ART 120 Design History**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on historical trends in two-dimensional and three-dimensional design. Topics include: key developments and contributors, design language, and effective description of design concepts in written and spoken communication.

Prerequisites: ENG 101 or ENG 101A (minimum grade C)

**ART 125 Design Principles**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental principles and techniques for effective visual composition in print and multimedia applications.

Prerequisites: None

**ART 130 Photography**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of photography for personal and professional expression, using film-based 35mm cameras.

Prerequisites: None

**ART 141 Drawing 1**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamental techniques of drawing in pencil and other media, emphasizing visual observation and realistic expression.

Prerequisites: None

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**ART 142 Drawing 2**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of ART 141, emphasizing drawing the human figure.

Prerequisites: ART 141

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**ART 143 Drawing 3**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of ART 142, emphasizing independent development of a cohesive body of work using traditional and non-traditional drawing media and tools.

Prerequisites: ART 142 or instructor consent

**ART 145 Drawing with Pastels and Colored Pencils**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamental techniques of drawing, using a variety of pastels and colored pencils to demonstrate understanding of color theory.

Prerequisites: ART 141 or instructor consent

**ART 150 Watercolor**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamental principles and techniques of watercolor painting. Topics include: basic tools, color theory, brush techniques, styles, and framing and matting.

Prerequisites: None

**ART 161 Sculpture 1**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental techniques of sculpture using clay and other materials.

Prerequisites: None

**ART 162 Sculpture 2**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of ART 161, emphasizing envisioning and creating three-dimensional art works.

Prerequisites: ART 161

## ASL

### Courses

**ASL 101 Beginning American Sign Language 1**  
**3 Credits. 3 Lecture Hours. 1 Lab Hour.**

An introductory course on American Sign Language. Topics include: ASL vocabulary, Deaf culture, ASL grammatical features, and beginning ASL conversational comprehensive and expressive skills.

Prerequisites: None

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**ASL 102 Beginning American Sign Language 2****3 Credits. 3 Lecture Hours. 1 Lab Hour.**

A continuation of ITP 101. Topics include: continued development of ASL vocabulary and grammatical features, understanding of Deaf culture, and conversational comprehensive and expressive skills.

Prerequisites: ASL 101 (minimum grade C)

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**ASL 201 Intermediate American Sign Language 1****3 Credits. 3 Lecture Hours. 1 Lab Hour.**

A course on developing and practicing receptive and expressive skills for acquiring ASL targeted vocabulary and grammatical features.

Topics include: improving ASL skills by visual comprehension, signing, writing with gloss system, and using basic expressive and receptive skills in laboratory/class settings.

Prerequisites: ASL 102 (minimum grade C)

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**ASL 202 Intermediate American Sign Language 2****3 Credits. 3 Lecture Hours. 1 Lab Hour.**

A continuation of ASL 201. Topics include: higher level skills in major grammatical features of ASL, and additional practice of receptive skills using prepared dialogues as well as numbers.

Prerequisites: ASL 201 (minimum grade C)

Corequisites: Take ITP 230

**ASL 251 Advanced American Sign Language 1****3 Credits. 3 Lecture Hours. 1 Lab Hour.**

A course on advanced ASL communication skills, vocabulary, and grammatical features. Topics include: advanced practice and development of expressive and receptive skills.

Prerequisites: ASL 202 and ITP 230 (minimum grade C for both)

**ASL 252 Advanced American Sign Language 2****3 Credits. 3 Lecture Hours. 1 Lab Hour.**

A continuation of ITP 251. Topics include: advanced-level vocabulary building and grammatical features improvement, and applying native-like signing into ASL production.

Prerequisites: ASL 251 (minimum grade C)

## AUTO

### Courses

**AUTO 100 Introduction to Automotive Technology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on foundation concepts of the automotive industry.

Topics include: safety practices, shop equipment and tools, vehicle subsystems, service publications, fasteners, professional responsibilities, and automotive maintenance.

Prerequisites: ENG 085 or appropriate placement

Corequisites: AUTO 161

**AUTO 111 Engine Repair****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on internal combustion engines. Topics include: engine classification, identification of parts, disassembly, inspection, and measurement; failure analysis; reassembly; and tools and procedures used in the engine rebuilding process.

Prerequisites: AUTO 100

**AUTO 140 Suspension and Steering****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operation, diagnosis, service, and repair of steering and suspension systems. Topics include: wheels and tires, front and rear suspension systems for front-wheel drive and rear-wheel drive vehicles, and wheel alignment angles.

Prerequisites: AUTO 100 and AUTO 161

**AUTO 150 Brakes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operation, diagnosis, service, and repair of automotive braking systems. Topics include: hydraulic, mechanical, and anti-lock braking systems; power assist units; and machine operations of drums and rotors.

Prerequisites: AUTO 100 and AUTO 161

**AUTO 161 Electrical/Electronic Systems 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on systematic diagnosis and repair of basic automotive electrical circuits. Topics include: Ohm's law, interpreting wiring schematics, step-by-step testing procedures, starting and charging systems, and automotive component testing.

Prerequisites: ENG 085 or appropriate placement

Corequisites: AUTO 100

**AUTO 162 Electrical/Electronic Systems 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of AUTO 161. Topics include: wiring schematic interpretation, diagnosis, and repair of driver information systems, cruise control systems, motor driven accessories, heated glass, and electronic body control systems.

Prerequisites: AUTO 100 and AUTO 161

**AUTO 170 Heating and Air Conditioning****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on diagnosis, service, and repair of automotive air conditioning and heating systems. Topics include: performance testing, pressure and leak testing, electrical and mechanical controls, compressors, clutches, safety devices, and ozone-safe service.

Prerequisites: AUTO 100 and AUTO 161

**AUTO 175 Powertrain Systems and Service****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on assessment and replacement of major powertrain components. Topics include: procedures for replacing and servicing engines, drivetrain components, automatic transmissions, manual transmissions, and differentials.

Prerequisites: AUTO 100 and AUTO 111 and AUTO 161

**AUTO 181 Engine Performance 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on engine performance diagnostics and fuel injection and ignition systems. Topics include: evaluation of basic engine mechanical system through vacuum, cylinder power balance, compression, and cylinder leakage testing.

Prerequisites: AUTO 111 and AUTO 161

**AUTO 182 Engine Performance 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of AUTO 181. Topics include: On-Board Diagnostics systems, scan tools that retrieve diagnostic codes and data, diagnostic flow charts, and testing and replacing computer sensor inputs and computer-controlled output components.

Prerequisites: AUTO 181

**AUTO 191 Part-Time Cooperative Education 1: Automotive  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190 (minimum grade C)

**AUTO 192 Part-Time Cooperative Education 2: Automotive  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: AUTO 191

**AUTO 193 Part-Time Cooperative Education 3: Automotive  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: AUTO 192

**AUTO 194 Part-Time Cooperative Education 4: Automotive  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: AUTO 193

**AUTO 195 Part-Time Cooperative Education 5: Automotive  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: AUTO 194

**AUTO 196 Part-Time Cooperative Education 6: Automotive  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: AUTO 195

**AUTO 291 Full-Time Cooperative Education 1: Automotive  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190 (minimum grade C)

**AUTO 292 Full-Time Cooperative Education 2: Automotive  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: AUTO 291

**AUTO 293 Full-Time Cooperative Education 3: Automotive  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: AUTO 292

## AVP

### Courses

**AVP 100 Introduction to Audio/Video Production  
4 Credits. 4 Lecture Hours. 1 Lab Hour.**

A course on foundation principles of videography and lighting, audio and sound design, and video editing and post production. Topics include: industry vocabulary, workflow, and professional practices. Prerequisites: None

**AVP 110 Videography: Single Camera Production and Lighting  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for single camera video production. Topics include: industry terminology, pre-production and planning, camera types and formats, shot composition, and use of gripping and support equipment. Prerequisites: AVP 100 (minimum grade C)

**AVP 120 Digital Video Editing  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on non-linear digital video editing, with additional focus on storytelling and production workflow. Topics include: session set up, media management and acquisition, basic editing techniques, and output and delivery. Prerequisites: AVP 100 (minimum grade C)

**AVP 130 Audio: Editing Mixing  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for digital audio editing and mixing using ProTools HD and LE systems. Topics include: session set-up, routing, signal flow, equalization, dynamics control, and delivery. Prerequisites: AVP 100 (minimum grade C)

**AVP 191 Part-Time Cooperative Education 1: Audio/Video  
Production****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: None

**AVP 192 Part-Time Cooperative Education 2: Audio/Video Production****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: AVP 191

**AVP 193 Part-Time Cooperative Education 3: Audio/Video Production****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: AVP 192

**AVP 194 Part-Time Cooperative Education 4: Audio/Video Production****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: AVP 193

**AVP 195 Part-Time Cooperative Education 5: Audio/Video Production****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: AVP 194

**AVP 196 Part-Time Cooperative Education 6: Audio/Video Production****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: AVP 195

**AVP 210 Videography- Multi Camera Production and Lighting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for multi camera video production. Topics include: industry terminology, pre-production and planning, camera types and formats, shot composition, and use of gripping and support equipment.  
Prerequisites: AVP 110 (minimum grade C)

**AVP 220 Video Editing and Compositing****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on advanced concepts and techniques for video editing. Topics include: text and motion graphics, compositing, color correction, keyframing, and multicamera editing and effects.  
Prerequisites: AVP 120 (minimum grade C)

**AVP 230 Audio: Production/Sound Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on advanced concepts and techniques for audio production. Topics include: voice recording and direction, sound effects creation, music and editing, and mix-to-picture techniques.  
Prerequisites: AVP 130 (minimum grade C)

**AVP 240 Motion Graphics/Compositing: After Effects****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on professional techniques for using Adobe After Effects in video post-production of movies and commercials.  
Prerequisites: GRD 120 and GRD 130 (minimum grade C for all)

**AVP 250 Alternate Editing Platforms-Video****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on varieties of industry-standard software and hardware used for video editing.  
Prerequisites: AVP 220 (minimum grade C)

**AVP 255 Advanced Lighting Techniques****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on advanced lighting techniques. Topics include: principles of electricity, color theory, and gripping and lighting for various digital media formats.  
Prerequisites: AVP 210 (minimum grade C)

**AVP 260 Color Grading, Correction and Continuity****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for color correction and color grading. Topics include: balance and continuity, and creating emotional and special effect.  
Prerequisites: AVP 220 (minimum grade C)

**AVP 265 Video Compression- DVD Authoring****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for video compression and DVD authoring. Topics include: past and current video file CODEC and format types, and file delivery and compatibility.  
Prerequisites: AVP 220 (minimum grade C)

**AVP 270 Alternate Editing Platforms- Audio****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on varieties of industry-standard software and hardware used for audio editing.  
Prerequisites: AVP 230 (minimum grade C)

**AVP 275 Advanced Audio Mixing- 5.1 Surround****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on advanced mix techniques using five-channel (5.1) surround sound. Topics include: bass management, recording for surround, and final output.  
Prerequisites: AVP 230 (minimum grade C)

**AVP 280 Multit Track Recording Techniques****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for multi-track recording from pre-production through final mix. Topics include: session flow and management, microphone placement, and mixing techniques.  
Prerequisites: AVP 230 (minimum grade C)

**AVP 285 AVP Independent Project****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work individually or with an approved team from concept to completion on a media production project, and present the results to reviewers. Topic and outline must be presented to a jury of instructors, and approved prior to course registration. Students who do not successfully complete the course may make one additional attempt.

Prerequisites: Audio/Video Production Program Chair consent, and minimum 3.0 GPA

Instructor Consent Required

**AVP 290 Audio/Video Production Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work in structured teams to develop audio and video deliverables for an external client, and present the results to reviewers. Activities include audience, client, and market analysis; and all phases of production including pre- and post. Students who do not successfully complete the course may make one additional attempt.

Prerequisites: Audio/Video Program Chair consent, and minimum 2.5 GPA

Instructor Consent Required

**AVP 291 Full-Time Cooperative Education 1: Audio/Video Production****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**AVP 292 Full-Time Cooperative Education 2: Audio/Video Production****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 291

**AVP 293 Full-Time Cooperative Education 3: Audio/Video Production****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 292

**AVP 294 Internship 1: Audio/Video Production****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MID 190

**AVP 295 Internship 2: Audio/Video Production****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: AVP 294

## BIO

### Courses

**BIO 100 Integrated Biology and Skills for Success in Science****6 Credits. 5 Lecture Hours. 3 Lab Hours.**

A course on integrated biological, mathematical, and scientific laboratory skills needed for success in anatomy and physiology courses required for Health and Public Safety majors, as well as science courses in all majors. Topics include: biological, biochemical, and organismal processes; math fundamentals for science application; and introductory lab experiences. Students must pass a comprehensive exam to pass this course.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**BIO 111 Biology: Unity of Life****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on characteristics shared by all living organisms. Topics include: the nature of science, chemistry of life, cell biology, energetics and biochemical pathways, cell division, genetics, molecular biology, and the origin of life.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

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**BIO 112 Biology: Diversity of Life****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of BIO 111. Topics include: taxonomy and evolution of animals, plants, fungi, protists, bacteria, and viruses; animal behavior; ecology; population growth; and conservation biology.

Prerequisites: BIO 111

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**BIO 115 Human Genetics****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on human traits, genetic conditions, and inheritance. Topics include: DNA structure, patterns of inheritance, meiosis, karyotypes, genetic engineering, and societal implications of an individual's genetic identity.

Prerequisites: BIO 111 or BIO 131 (minimum grade C for either)

**BIO 117 Human Body in Health and Disease****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Fundamentals of the structure and function of the human body. Topics include: anatomy, normal function contrasted with dysfunction, and common diseases of body systems including symptoms and treatments.

Prerequisites: ENG 080 and MAT 093, or appropriate placements

**BIO 127 Human Body in Health and Disease Laboratory****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A laboratory course that accompanies BIO 117. Laboratory activities include: exercises, slides, models, and animal organ dissections.

Prerequisites: BIO 100 or BIO 111 or BIO 131 or BIO 151, or HS

Biology within the last 5 years (minimum grade C for all), or BMT 161

Corequisites: BIO 117: Human Body in Health and Disease

**BIO 131 Biology 1****5 Credits. 4 Lecture Hours. 3 Lab Hours.**

A course on the chemistry of life. Topics include: cellular structure and function; characteristics of life; theory of evolution; understanding DNA and its role in heredity, regulation of biological systems, bioenergetics, and biochemical pathways; and current developments in biotechnology.

Prerequisites: BIO 111 (minimum grade C), or high school Biology within past 5 years (minimum grade C)

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Ohio Transfer Assurance Guide Approved

**BIO 132 Biology 2****5 Credits. 4 Lecture Hours. 3 Lab Hours.**

A continuation of BIO 131. Topics include: scientific theory, history of scientific discovery, evolutionary principles, form and function of living organisms, biological classification, behavior of organisms and their relationships to biological systems, ecological systems, applications of biology, and sustainability.

Prerequisites: BIO 131 (minimum grade C)

Ohio Transfer Module Approved

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**BIO 151 Anatomy and Physiology 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the structure and function of the human body. Topics include: orientation to anatomy and physiology; cellular function; tissues; special senses; and integumentary, skeletal, muscular, and nervous systems.

Prerequisites: BIO 111, and CHE 100 or CHE 110 or CHE 115; or high school Biology and Chemistry within the past 5 years; or BIO 100 (minimum grade C for all)

Ohio Transfer Module Approved

**BIO 152 Anatomy and Physiology 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of BIO 151. Topics include: endocrine, cardiovascular, immune, respiratory, digestive, urinary, and reproductive systems; metabolism; fluid and electrolyte balance; and human growth and development.

Prerequisites: BIO 151 (minimum grade C)

Ohio Transfer Module Approved

**BIO 210 Cross Sectional Anatomy****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on sectional anatomy of major human structures including the head, neck, thorax, abdomen, pelvis and extremities; and organ relationships in the axial, coronal, and sagittal planes.

Prerequisites: BIO 152 (minimum grade C)

**BIO 220 Microbiology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on microbiology and infectious disease. Topics include: microbial taxonomy and identification, microbial cell structure, microbial genetics, metabolism, biotechnology, epidemiology, and immunology.

Prerequisites: BIO 132 or BIO 151 (minimum grade C for either)

**BIO 230 Pharmacology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on clinical drug categories and therapies. Topics include: pharmacokinetics; pharmacodynamics; drug classes and schedules; drug approval and regulation; modes of administration; and indications, mechanism of action, and adverse effects.

Prerequisites: BIO 152 (minimum grade C)

**BIO 240 Pathophysiology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental clinical concepts of disease processes. Topics include: terminology, clinical presentations, manifestations, and diagnostic and therapeutic activities.

Prerequisites: BIO 152 (minimum grade C)

Ohio Transfer Assurance Guide Approved

**BIO 250 Cell Biology****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on the structure and function of cells. Topics include: cell structure and organelles, membrane function, cell respiration and photosynthesis, intracellular transport, cell to cell communication, and cell division.

Prerequisites: BIO 132 and CHE 100 or CHE 110 (minimum grade C for all)

**BIO 260 Genetics****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on mechanisms of heredity and genetics. Topics include: DNA and chromosome structure, transcription and gene regulation, replication and cell division, patterns of inheritance, genetic recombination, mutations and their repair, and genetics of cancer development and evolution.

Prerequisites: BIO 131 and CHE 100 or CHE 110 (minimum grade C for all)

**BIO 270 Ecology****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on interrelationships between organisms and their natural environments. Topics include: ecology and evolution; population ecology, density, dispersion, and dispersal; metapopulations; competition and predation; community structure, succession, and nutrient cycling; and sustainability.

Prerequisites: BIO 132 or BIO 152, and CHE 100 or CHE 110 (minimum grade C for all)

**BIO 275 Animal Behavior****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on the diversity of animal behaviors examined from mechanistic, ecological and evolutionary perspectives. Topics include: genetic, physiological, neural, and developmental bases of behavior; animal learning and social behavior; predator-prey interaction; and communication, reproduction, mating, and parental systems.

Prerequisites: BIO 132 or BIO 270, and CHE 100 or CHE 110 (minimum grade C for all)

**BIO 310 Food Microbiology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the role of microorganisms in foods. Topics include: nomenclature, classification, and prevalence and identification of microorganisms that affect food safety, food spoilage, food-borne illness, and food fermentation.

Prerequisites: CHE 115 and CUL 115 and instructor consent  
Instructor Consent Required

# BMT

## Courses

### **BMT 161 Biomedical Instrumentation 1**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on the role of the biomedical engineering technician, and fundamentals of systems and device maintenance. Topics include: hospital organization and regulations, professional certifications, safety, medical device maintenance, and technology management.  
Prerequisites: EET 131

### **BMT 191 Part-Time Cooperative Education 1: Biomedical Equipment and Information Systems Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

### **BMT 192 Part-Time Cooperative Education 2: Biomedical Equipment and Information Systems Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 191

### **BMT 193 Part-Time Cooperative Education 3: Biomedical Equipment and Information Systems Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 192

### **BMT 194 Part-Time Cooperative Education 4: Biomedical Equipment and Information Systems Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 193

### **BMT 195 Part-Time Cooperative Education 5: Biomedical Equipment and Information Systems Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 194

### **BMT 196 Part-Time Cooperative Education 6: Biomedical Equipment and Information Systems Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 195

### **BMT 262 Biomedical Instrumentation 2**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of BMT 161. Topics include: patient and surgical monitoring, complex medical devices, imaging equipment, medical technology management, equipment malfunction, and globalization.  
Prerequisites: BMT 161 and EET 122 and EET 132 and ESET 251

### **BMT 291 Full-Time Cooperative Education 1: Biomedical Equipment and Information Systems Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

### **BMT 292 Full-Time Cooperative Education 2: Biomedical Equipment and Information Systems Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 291

### **BMT 293 Full-Time Cooperative Education 3: Biomedical Equipment and Information Systems Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 292

### **BMT 294 Internship 1: Biomedical Equipment and Information Systems Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 151 and CIT 190

### **BMT 295 Internship 2: Biomedical Equipment and Information Systems Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BMT 294



# BPA

## Courses

### **BPA 130 Business Systems Analysis and Design** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introductory course on business systems analysis within the framework of the system development life cycle. Topics include: business case analysis, requirement gathering, requirement modeling, enterprise modeling, and development strategies.  
Prerequisites: ENG 085 and MAT 093, or appropriate placements

### **BPA 191 Part-Time Cooperative Education 1: Business Programming and Systems Analysis** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

### **BPA 192 Part-Time Cooperative Education 2: Business Programming and Systems Analysis** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BPA 191

### **BPA 193 Part-Time Cooperative Education 3: Business Programming and Systems Analysis** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BPA 192

### **BPA 194 Part-Time Cooperative Education 4: Business Programming and Systems Analysis** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BPA 193

### **BPA 195 Part-Time Cooperative Education 5: Business Programming and Systems Analysis** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BPA 194

### **BPA 196 Part-Time Cooperative Education 6: Business Programming and Systems Analysis**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BPA 195

### **BPA 290 Business Programming and Systems Analysis Capstone** **4 Credits. 3 Lecture Hours. 3 Lab Hours.**

Students participate in a team project that demonstrates mastery of skills gained throughout their degree studies. Topics include: analyzing requirements, determining an IT solution, and implementing an IT solution.  
Prerequisites: IT 102 and IT 111 and IT 161

### **BPA 291 Full-Time Cooperative Education 1: Business Programming and Systems Analysis** **2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

### **BPA 292 Full-Time Cooperative Education 2: Business Programming and Systems Analysis** **2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BPA 291

### **BPA 293 Full-Time Cooperative Education 3: Business Programming and Systems Analysis** **2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BPA 292

### **BPA 294 Internship 1: Business Programming and Systems Analysis**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CIT 190

### **BPA 295 Internship 2: Business Programming and Systems Analysis**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BPA 294

# BPI

## Courses

### **BPI 110 BPI Building Analyst Professional**

**2 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course leading to certification as a Building Performance Institute (BPI) Building Analyst Professional who is qualified to conduct whole-house energy audits. Topics include: BPI standards, analyzing building systems, building science, and measurement and verification of building performance.

Prerequisites: None

### **BPI 115 BPI Envelope Professional**

**2 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course leading to certification as a Building Performance Institute (BPI) Building Analyst Professional who is qualified to conduct whole-house energy audits. Topics include: BPI standards, analyzing building systems, building science, and measurement and verification of building performance.

Prerequisites: None

# BREW

## Courses

### **BREW 100 Introduction to Craft Beer**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to craft beers and brewing for those not pursuing the Brewing Science associate's degree. Topics include: beer and brewing history, production, characteristics, taxonomy, and evaluation.

Prerequisites: None

### **BREW 105 Beverage Tour and Tasting Management**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on developing, marketing, and managing the craft beverage tour experience. Topics include: providing customer service, implementing special events, and operating a tasting room.

Prerequisites: BREW 100

### **BREW 110 Brewing Sanitation and Safety**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on sanitation and safety procedures applicable to brewing products, facilities, and equipment. Topics include: selecting, handling, and storing the chemicals required for sanitation control within the brewing process.

Prerequisites: Admitted to the BREW degree program

### **BREW 120 Brewing Technology and Calculations**

**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on the equipment and mathematical calculations used in craft brewing production. Topics include: using brewing equipment and other technology related to scheduling/record keeping, developing recipes, and calculating use of alcohol and other ingredients.

Prerequisites: Admitted to the BREW degree program, and MAT 093 or MAT 105 or appropriate placement

### **BREW 130 Brewing Production**

**4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on basic methodologies used in the production of beers. Topics include: recipe development, basic sanitation techniques, fermentation management, and storage.

Prerequisites: BREW 110 and BREW 120

### **BREW 140 Brewing Ingredients**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how ingredients used in the beer-making process affect the style and quality of beer. Topics include: selecting and growing barley, varieties of malting, growing hops, and the effect of hops in development of beer flavor and aroma.

Prerequisites: BREW 110 and BREW 120

### **BREW 150 Applied Brewing Microbiology**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on microbiology concepts and laboratory practices applicable to the brewing industry. Topics include: yeast biology, fermentation, microorganisms in brewing, and sanitation.

Prerequisites: BREW 110 and CHE 110

### **BREW 160 Sensory Evaluation of Beer**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the visual, olfactory, and gustatory parameters used in the evaluation of beer. Topics include: aromas, finish, flavor/taste interaction, and factors affecting product quality; descriptive analysis/model systems; judging systems; and set-up and operation of beverage competitions.

Prerequisites: Admitted to the BREW degree program or BREWC certificate program

Instructor Consent Required

### **BREW 191 Part-time Cooperative Education 1: Brewing Science**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

### **BREW 192 Part-Time Cooperative Education 2: Brewing Science**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 191

Instructor Consent Required

### **BREW 193 Part-Time Cooperative Education 3: Brewing Science**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 192

Instructor Consent Required

### **BREW 194 Part-time Cooperative Education 4: Brewing Science**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 193

Instructor Consent Required

**BREW 195 Part-Time Cooperative Education 5: Brewing Science  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 194

Instructor Consent Required

**BREW 196 Part-Time Cooperative Education 6: Brewing Science  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 195

Instructor Consent Required

**BREW 210 Beverage Marketing and Sales  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on marketing and selling beer and other brewed, fermented, or distilled products. Topics include: industry/consumer trends; and economic, legal, and social considerations that affect beverage marketing and sales, including branding, pricing, promotion, and distribution.

Prerequisites: BREW 160

**BREW 220 Brewing Packaging, Materials, and Quality Control  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on practices associated with packaging beer, including canning, bottling, box presentations, and kegging. Topics include: expanding product shelf life; selecting containers; controlling temperature and light; and evaluating options for labeling, capping, and sealing.

Prerequisites: BREW 140

**BREW 230 Advanced Brewing Production  
4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on processes and equipment used in an on-site brewery and fermentation facility. Topics include: analyzing and monitoring fermentation, producing specialty beers, quality control, sustainable brewing practices, and operating and managing brewing facilities.

Prerequisites: BREW 140

**BREW 240 Legal Issues in Brewing and Beverages  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the legal and regulatory environment applicable to the brewing, distillation, and fermentation industries. Topics include: social and ethical responsibilities; and state/federal regulations including licensing, taxation, labeling, record keeping, permits, inspections, and interstate/international commerce.

Prerequisites: BREW 160

**BREW 250 Practical Malting and Brewing  
3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to the basic methodology used in malting and brewing laboratories to analyze raw materials and monitor the process and product. Topics include: analysis and characterization of raw materials, identifying the impact of raw materials and process conditions on performance and quality, and interpreting data related to understanding malting and brewing science.

Prerequisites: BREW 140

**BREW 291 Full-Time Cooperative Education 1: Brewing Science  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**BREW 292 Full-Time Cooperative Education 2: Brewing Science  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 291

Instructor Consent Required

**BREW 293 Full-Time Cooperative Education 3: Brewing Science  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BREW 292

Instructor Consent Required

## BSC

### Courses

**BSC 100 Survey of Bioscience and Biotechnology  
2 Credits. 2 Lecture Hours. 0 Lab Hour.**

An introductory course on the disciplines and scope of bioscience and biotechnology. Topics include: applications of bioscience and biotechnology, medical advances, bioethics, current developments, and career opportunities.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**BSC 115 Introduction to Bioscience  
4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on techniques, methodology, skills, and regulations used in bioscience laboratory settings. Topics include: standard operating procedures (SOPs) including record-keeping and data analysis, aseptic technique, solution and media preparation, laboratory management, and foundational elements of microscopy, microbiology, spectroscopy, genetic engineering, animal models in research, and troubleshooting experiments and protocols.

Prerequisites: BIO 131 and CHE 121 and CHE 131 (minimum grade C for all)

Corequisites: BIO 132, CHE 122, CHE 132

**BSC 120 Cell Culture  
2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on skills and techniques necessary to perform cell culture. Topics include: cell counts, biosafety, plant culture, yeast culture, mammalian cell culture, and fermentation techniques.

Prerequisites: BSC 115

**BSC 150 Scientific Literacy for Bioscience****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on reading, writing, and speaking skills for science professionals. Topics include: style and structure for scientific journal articles, the peer review process, and oral presentations of scientific information.

Prerequisites: None

**BSC 160 Quality and Compliance in Biomanufacturing****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on quality assurance elements in biomanufacturing industries. Topics include: current Good Manufacturing Practices (cGMPs), lean manufacturing and Six Sigma, root cause analysis, validation and calibration, and regulatory compliance. Students must attend field trips to local biomanufacturing companies.

Prerequisites: BSC 108

**BSC 191 Part-Time Cooperative Education 1: Bioscience****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BIO 132 and (BSC 205 or BSC 210) (minimum grade C for all)

**BSC 192 Part-Time Cooperative Education 2: Bioscience****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BSC 191

**BSC 205 Molecular Genetics Laboratory****5 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on molecular genetics techniques. Topics include: DNA and RNA isolation and purification, constructing screening libraries, electrophoresis, vector construction, Southern blot, PCR, DNA sequencing, and microarrays.

Prerequisites: BSC 115 and BIO 220 (minimum grade C for both)  
Instructor Consent Required**BSC 210 Protein Purification and Analysis****5 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on isolation, purification, and analysis of proteins from cells. Topics include: chromatography, electrophoresis, Western blot, enzyme assays, proteomics, ELISA, and other immunochemistry methods for detecting proteins.

Prerequisites: BSC 115 and BIO 220 (minimum grade C for both)

**BSC 230 Introduction to Bioinformatics****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on computer applications, statistics, and genetics used in computational biology and bioinformatics. Topics include: the Human Genome and Human Proteome projects, multiple sequence analysis, genetic conditions and trends, and use of databases such as BLAST, FASTA, and Entrez.

Prerequisites: BIO 111 or BIO 131

**BSC 280 Bioscience Capstone Project****2 Credits. 0 Lecture Hour. 4 Lab Hours.**

Students design and perform a project under the supervision of a Bioscience instructor. Topics include: planning a budget, and documenting project results.

Prerequisites: BIO 132, and ( BSC 205 or BSC 210)

**BSC 291 Full-Time Cooperative Education 1: Bioscience****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BIO 132 and ( BSC 205 or BSC 210) (minimum grade C for all)

**BSC 294 Internship 1: Bioscience****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issues are Satisfactory or Unsatisfactory.

Prerequisites: BIO 132, BSC 205, or BSC 210 (minimum grade C for all)

## BUS

### Courses

**BUS 100 Business Career Exploration Seminar****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using research and personal reflection to develop a strong foundation for selecting an academic program/major and planning a career related to Business. Topics include: analyzing interests, abilities, and values; reviewing academic and personal requirements for related programs/majors; and examining career outcomes including salary, job availability, advancement opportunities, and other factors.

Prerequisites: None

**BUS 150 Automotive Services ATS: Advanced Standing****30 Credits. 30 Lecture Hours. 0 Lab Hour.**

Students complete apprenticeship education, industry training programs, or work experience related to skills used in the automotive services industry.

Prerequisites: Program Chair consent  
Instructor Consent Required**BUS 190 Professional Practices****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that prepares students in Business Technologies programs for a successful cooperative education experience. Topics include: exploring career options, preparing a resume, developing interviewing skills, building a professional presence, and understanding professional ethics. Students must earn a grade of C or higher to pass this course.

Prerequisites: ENG 085 or appropriate placement

**BUS 191 Part-Time Cooperative Education 1: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**BUS 192 Part-Time Cooperative Education 2: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 191

**BUS 193 Part-Time Cooperative Education 3: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 192

**BUS 194 Part-Time Cooperative Education 4: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 193

**BUS 195 Part-Time Cooperative Education 5: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 194

**BUS 196 Part-Time Cooperative Education 6: Business****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 195

**BUS 280 Cooperative Education Seminar 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Students participate in activities that enhance employment options in a chosen career field, as an alternative to traditional cooperative education experience. A minimum grade of C is required to pass the course.

Prerequisites: Co-op coordinator consent  
Instructor Consent Required**BUS 285 Cooperative Education Seminar 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Students participate in activities that enhance employment options in a chosen career field, as an alternative to traditional cooperative education experience. A minimum grade of C is required to pass the course.

Prerequisites: Co-op coordinator consent  
Instructor Consent Required**BUS 291 Full-Time Cooperative Education 1: Business****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**BUS 292 Full-Time Cooperative Education 2: Business****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 291

**BUS 293 Full-Time Cooperative Education 3: Business****2 Credits. 2 Lecture Hours. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 292

## CET

### Courses

**CET 100 Introduction to Civil Engineering Technology****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on foundation concepts in civil engineering technology. Topics include: CET program and curriculum, career preparation, licensing, ethics, diversity, and OSHA. Students use Microsoft Word, Excel, and Powerpoint to complete assignments.

Prerequisites: None

**CET 105 Introduction to Surveying****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on foundation concepts of land surveying and site planning. Topics include: angle, distance, and elevation measurement; contours; and mapping and site planning fundamentals. Students complete outdoor field exercises and manual drafting lab exercises.

Prerequisites: MAT 121 or appropriate placement  
Ohio Transfer Assurance Guide Approved**CET 107 Construction Health and Safety****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

An introduction to construction safety. Topics include: risk management, safety hazards, the Code of Federal Regulations, and OSHA Construction Industry Standards outlined in Federal Code 29 CFR Part 1926. Students who complete the course successfully earn the OSHA 30-hour certificate.

Prerequisites: None

**CET 110 Advanced Surveying and Construction Layout**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course in land surveying and construction layout. Topics include: traverse calculations, coordinate geometry, and field construction layout with methods of providing line and grade for varied projects. Students complete outdoor field exercises and computer lab exercises.  
 Prerequisites: CET 105

**CET 115 Architectural Drafting and Computer Aided Design**  
**4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on applying architectural drafting techniques and computer aided design concepts. Topics include: building codes, building materials, and fundamentals of CAD software. Students prepare residential working drawings.  
 Prerequisites: None

**CET 117 Construction Risk Management and Insurance**  
**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on insurance for the construction management process. Topics include: financial risk planning, risk management, insurance markets, property insurance, contractual risks and transfer, forms of liability insurance (commercial, employers, environmental, management, and professional), and workers' compensation.  
 Prerequisites: None

**CET 120 Advanced Computer Aided Design: Revit Architecture**  
**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on CAD techniques that apply building information modeling using Revit Architecture. Topics include: layouts, dimensioning, blocks, and hatching.  
 Prerequisites: CET 115

**CET 125 Statics and Strength of Materials (CET)**  
**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying physical principles to solve problems of equilibrium and behavior in civil engineering structures. Topics include: force resultants, equilibrium, truss analysis, direct stress, bending stress, beam behavior, and combined stress.  
 Prerequisites: MAT 124 or appropriate placement

**CET 127 Environmental and Legal Issues in Construction**  
**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on environmental and legal issues affecting construction safety. Topics include: stormwater pollution prevention plans, asbestos abatement, disturbance and abatement of lead-containing materials, silica exposure, EPA regulations, multi-employer worksite rules, intentional torts, safety violations, and union contracts.  
 Prerequisites: None

**CET 130 Building Codes and Materials**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on building code requirements and their applications to designing and constructing building projects. Topics include: Ohio building, mechanical, electrical, and plumbing codes; and building materials used in construction such as steel, wood, masonry, and concrete.  
 Prerequisites: CET 115

**CET 133 Home Inspection - American Society of Home Inspectors**  
**5 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course that meets requirements for the American Society of Home Inspectors (ASHI) 120-hour home inspection course. Topics include: standards and reports, exterior cladding, exterior structures, roofing and foundations, interiors, electrical systems, heating, air conditioning, and plumbing. Students participate in field inspection lab activity and take a certification exam. A comprehensive final score of 70% is required to pass the course.  
 Prerequisites: None

**CET 135 Construction Estimating**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on quantifying various components of a commercial project using a complete set of working drawings and specifications. Topics include: blueprint reading, specification analysis, construction methods and materials, and proper estimating communication practices.  
 Prerequisites: MAT 124 or appropriate placement

**CET 137 Construction Safety Plan Management**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developing construction safety plans. Topics include: essential elements of a safety program; best practices, legal, and regulatory requirements related to safety planning; substance abuse programs; accident investigations; contractor management; and crisis management and planning.  
 Prerequisites: None

**CET 147 Safety Training Workshops**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

Students participate in construction training workshops that provide fundamental instruction in safety methods and practices. Workshops must be approved by the program chair.  
 Prerequisites: Program Chair consent

**CET 150 Building Technology Studies: Advanced Standing**  
**1-30 Credits. 0 Lecture Hour. 0 Lab Hour.**

Students complete courses or programs that develop expertise in skills related to the building trades.  
 Prerequisites: Program Chair consent  
 Instructor Consent Required

**CET 191 Part-Time Cooperative Education 1: Civil Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: None

**CET 192 Part-Time Cooperative Education 2: Civil Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: CET 191

**CET 193 Part-Time Cooperative Education 3: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 192

**CET 194 Part-Time Cooperative Education 4: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 193

**CET 195 Part-Time Cooperative Education 5: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 194

**CET 196 Part-Time Cooperative Education 6: Civil Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 195

**CET 200 Structural Design****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on methods for evaluation and design of structural steel and reinforced concrete members, using AISC and ACI requirements. Topics include: design methodologies focused on bending moment behavior, tension and compression behavior, shear behavior, and connections; and common field testing techniques for concrete.

Prerequisites: CET 125

**CET 205 Architectural Design and 3D Modeling: Revit Architecture****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on architectural details and information required in a complete set of professional working drawings for an office or commercial building. Topics include: using CAD design software and Revit Architecture.

Prerequisites: CET 120

Corequisites: CET 211, CET 212

**CET 210 Lighting and Electrical Systems Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts for lighting and electrical design in commercial buildings. Topics include: creating sets of drawings in AutoCAD and Revit Architecture, and using the National Electric Code.

Prerequisites: CET 120

**CET 211 Advanced Revit: Mechanical****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on understanding concepts of plumbing and mechanical systems and preparing details of plumbing and mechanical systems layouts using Revit software.

Prerequisites: CET 120

Corequisites: CET 205, CET 212

**CET 212 Advanced Revit: Electrical****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on understanding concepts of electrical power and lighting systems and preparing details of electrical power and lighting systems layouts using Revit software.

Prerequisites: CET 120

Corequisites: CET 205, CET 211

**CET 215 Mechanical and HVAC Systems Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts of mechanical and HVAC design for commercial buildings. Topics include: creating sets of design drawings using AutoCAD and Revit, and Ohio mechanical and plumbing codes.

Prerequisites: CET 120

**CET 220 3D Modeling: Revit MEP and Revit Structure****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applying design concepts and preparing details of mechanical and electrical systems, plumbing, and structure in buildings using Revit MEP and Revit Structure software.

Prerequisites: CET 205

**CET 225 Building Construction****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how buildings and structures are assembled. Topics include: methods and materials for residential, commercial, industrial, and highway construction including wood frame, masonry, pre-engineered metal, tilt-up, and high-rise construction; building codes; zoning regulations; and footing design.

Prerequisites: None

Ohio Transfer Assurance Guide Approved

Ohio Career-Technical Assurance Guide Approved

**CET 230 Construction Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that examines current concerns in construction management.

Topics include: project delivery systems, contract types, and using Web-based software for daily project management.

Prerequisites: CET 135

**CET 235 Construction Scheduling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on preparing precedence diagram CPM schedules and calculating the critical path, including start-to-start and finish-to-finish relationship types with lag. Topics include: using scheduling software, fast-tracking, reverse phase scheduling, and revising and updating schedules.

Prerequisites: CET 135

**CET 240 Cost Engineering****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on how budgets evolve as projects move from pre-design through construction. Topics include: types of estimates employed at each phase, formulating unit prices, time value of money and true profit, cash flow, cost indices, and using estimating software.

Prerequisites: CET 135

**CET 245 Building Information Models for Construction****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on using building modeling software for construction management tasks such as estimating, trade coordination, and scheduling. Topics include: parameter creation, quantity takeoff, estimation, interference checking, and timeline visualization.

Prerequisites: CET 120

**CET 250 Route Location and Design****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on highway design criteria and standards. Topics include: design and layout of horizontal curves, verticals, and spirals; superelevation use; typical sections; and boundary, area, and right-of-way determination. Students complete outdoor field exercises and computer lab exercises.

Prerequisites: CET 110

**CET 251 Elements of Land Surveying 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts and techniques of land boundary surveying. Topics include: records research, state minimum standards, monumentation of corners, and simple plats and legal descriptions. Students must complete field exercises.

Prerequisites: CET 110

**CET 252 Elements of Land Surveying 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of CET 251. Topics include: sequential and simultaneous boundaries, riparian and littoral boundaries, public land surveys, easements, and legal principles of property relating to surveyors.

Prerequisites: CET 251

**CET 255 Land Information Modeling****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques of land modeling. Topics include: mapping, using geographic information system software, advanced digital terrain modeling, 3D laser scanning, LIDAR, high-definition surveying, and 3D site modeling for visualization and machine-control projects.

Prerequisites: CET 110

**CET 260 Control Surveying****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course in concepts and techniques of control surveying. Topics include: basic geodesy, state plane coordinate concepts and calculations, establishing horizontal and vertical control, GPS positioning, and network adjustment. Students complete outdoor field exercises and computer lab exercises.

Prerequisites: CET 110

**CET 265 Subdivision Design and Drainage Control****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying land surveying and civil engineering design principles to land development projects. Topics include: subdivision regulations, zoning regulations, lot layout, street layout, utility design, drainage, and site grading. Students create a set of subdivision drawings to meet local standards.

Prerequisites: CET 255

**CET 266 Surveying History in Ohio, Kentucky, and Indiana****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the history of surveying in Ohio, Indiana, and Kentucky, including the original surveys in these states.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 267 Surveying Laws and Ethics****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on surveying law and professional ethics in Ohio, Indiana, and Kentucky, including legislation and regulations affecting land surveyors in these states.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 270 OSHA 30 for Construction****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in the construction industry. Topics include: workers' rights, employer responsibilities, how to file a complaint, and other information required to receive OSHA 30 certification by the U.S. Department of Labor's Occupational Safety and Health Administration.

Prerequisites: None

**CET 277 Survey Calculations and Statistics****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on survey calculations employing statistical concepts. Topics include: descriptive and inferential statistics, advanced coordinate geometry methods, least squares adjustment, and error theory.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 280 Civil Engineering Technology Architectural Capstone****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

Students design a one-story commercial building with complete, integrated building systems for architectural, mechanical, and electrical systems; apply multiple appropriate codes; and create sets of drawings using AutoCAD and Revit software as appropriate.

Prerequisites: CET 205 and CET 210 and CET 215

**CET 285 Civil Engineering Technology Construction Management Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students respond to a request for construction management services and complete a project that demonstrates integrated competencies in estimating, scheduling, communicating, and teamwork.

Prerequisites: CET 230 and CET 235

**CET 287 Geospatial Surveying****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on surveying using geospatial methods. Topics include: satellite positioning, geographic information systems, remote sensing, and laser scanning.

Prerequisites: Admitted to the Advanced Surveying Certificate (ASC) or Land Surveying Certificate (LSC), or Program Chair approval

**CET 290 Civil Engineering Technology Surveying Capstone****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

Students complete a project that demonstrates integrated competencies in surveying and mapping, including data collection, field work, computer laboratory work, and use of conventional and GPS equipment.

Prerequisites: CET 251

**CET 291 Full-Time Cooperative Education 1: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None



**CET 292 Full-Time Cooperative Education 2: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 291

**CET 293 Full-Time Cooperative Education 3: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 292

**CET 294 Internship 1: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 100

**CET 295 Internship 2: Civil Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CET 294

## CFS

### Courses

**CFS 311 Food Product Development 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on integration of culinary skills, food science knowledge, and effective use of functional ingredients to create high-quality and innovative food products. Topics include: general practices for food formulation, equipment use, and documentation.

Prerequisites: CHE 115 (minimum grade C) and CUL 290 and MAT 151, and instructor consent

Instructor Consent Required

**CFS 320 Food Formulation****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on food formulation practices including analysis of ingredient functionality and the role of current food products in the delivery of a new value proposition. Topics include: product attributes and appeal, and nutrition and safety.

Prerequisites: CHE 115 (minimum grade C) and CUL 290 and MAT 151, and instructor consent

Instructor Consent Required

**CFS 340 Colloquium on Current Food Topics****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Subject-matter experts from the food industry present information on current industry concerns from varied specialized areas, such as beverages, dairy, cultured foods, flavors, preservation, and baking science.

Prerequisites: CFS 320, and instructor consent

Instructor Consent Required

**CFS 412 Food Product Development 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of CFS 311, covering business and scientific aspects of new food product development from ideation to commercialization. Topics include: consumer research, trend analysis, competitive product analysis, and integration of market research and sensory analysis in product development.

Prerequisites: CFS 311 (minimum grade C), and instructor consent

Instructor Consent Required

**CFS 420 Food Safety and Quality****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on food production practices that assure quality and safety. Topics include: sanitation practices; control of pathogenic and spoilage microorganisms in food; and prevention, control, and mitigation of threats to the quality and safety of the food system.

Prerequisites: BIO 310 (minimum of C), and instructor consent

Instructor Consent Required

**CFS 430 Food Processing****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on food production systems, including principles of scale-up and large-scale production systems, and packaging technologies.

Prerequisites: CFS 412 and CFS 420 and instructor consent

Instructor Consent Required

**CFS 440 Food Policy, Regulations and Compliance****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on regulatory policies that affect food production. Topics include: the Code of Federal Regulations, regulatory agencies and their responsibilities, food labeling guidelines for dietary and health-related claims such as organic and natural, and permissible use of functional and enrichment additives.

Prerequisites: CFS 412 (minimum grade C), and instructor consent

Instructor Consent Required

**CFS 490 Culinary and Food Science Capstone****3 Credits. 1 Lecture Hour. 4 Lab Hours.**

Students synthesize and apply knowledge and proficiency gained throughout the baccalaureate degree program to complete a project that demonstrates skills in problem-solving, communication, and project management, as well as professional competence.

Prerequisites: CFS 412 and CFS 420 (minimum grade C for both), and instructor consent

Instructor Consent Required

**CFS 491 Full-Time Cooperative Education 1: Culinary and Food Science****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking a bachelor's degree participate in their first full-time field learning experience related to their Culinary and Food Science degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CFS 311 and CFS 320 and co-op coordinator consent  
Instructor Consent Required

**CFS 492 Full-Time Cooperative Education 2: Culinary and Food Science****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking a bachelor's degree participate in their second full-time field learning experience related to their Culinary and Food Science degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CFS 491 and co-op coordinator consent  
Instructor Consent Required

## CHE

### Courses

**CHE 100 Basic Chemistry****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introductory course on concepts in chemistry. Topics include: dimensional analysis and problem solving, physical and chemical properties of matter, organization of the periodic table, writing and manipulating formulas, stoichiometry, gas laws, equilibrium, and acids and bases.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both), or appropriate placements

**CHE 105 Everyday Chemistry****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course for non-science majors on the relevance of basic principles of chemistry to daily life. Topics include: laboratory/data analysis, matter classification, the periodic table, compound formation, chemical reactions, synthesis/analysis of consumer products, and the global impact of consumerism.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both), or appropriate placements

Ohio Transfer Module Approved

**CHE 110 Fundamentals of Chemistry****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A college-level general chemistry course for non-majors. Topics include: atomic structure, bonding, chemical reactions, properties and states of matter, acids and bases, and equilibrium.

Prerequisites: ENG 085, and MAT 096 or MAT 105 or MAT 124 (minimum grade C for all), or appropriate placements

Ohio Transfer Module Approved

**CHE 111 Bio-Organic Chemistry****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

Study of foundational concepts of organic chemistry and biochemistry. Topics include: types of organic compounds and representative reactions, and biochemical compounds and reactions.

Prerequisites: CHE 110 (minimum grade C) or CHE 121 and CHE 131 (minimum grade C for both)

Ohio Transfer Module Approved

**CHE 115 General, Organic, and Biological Chemistry****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A survey of basic general, organic, and biological chemistry. Topics include: dimensional analysis, problem-solving strategies, atomic structure, chemical bonding, reactions, acid-base chemistry, attractive forces, functional groups, structure/reactions of major macromolecules, and metabolism.

Prerequisites: ENG 085, and MAT 096 or MAT 105 or MAT 124 (minimum grade C for all), or appropriate placements

Ohio Transfer Module Approved

**CHE 121 General Chemistry 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A general chemistry course for science majors. Topics include: measurement systems; composition, properties, and reactions of elements and compounds; states of matter; atomic structure and bonding; and solution chemistry.

Prerequisites: High School Chemistry (within three years, minimum grade B) or CHE 100 or CHE 110 (minimum grade C for both), and MAT 124 or MAT 096 (minimum grade C for both), and ENG 085 (minimum grade C), or appropriate placements

Corequisites: CHE 131

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 122 General Chemistry 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of CHE 121. Topics include: kinetics, chemical equilibrium, acid-base chemistry, acid-base and solubility equilibrium, thermodynamics, electrochemistry, and chemistry of transition elements.

Prerequisites: CHE 121 and CHE 131 (minimum grade C for both) and MAT 125 or MAT 151 or MAT 153 (minimum grade C for all)

Corequisites: Take CHE-132

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 131 General Chemistry 1 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies CHE 121.

Prerequisites: High School Chemistry (within 3 years, minimum grade B) or CHE 100 or CHE 110 (minimum grade C for both), and MAT 124 or MAT 096 (minimum grade C for both), and ENG 085 (minimum grade C), or appropriate placements

Corequisites: CHE 121

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 132 General Chemistry 2 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies CHE 122.

Prerequisites: CHE 121 and CHE 131 (minimum grade C for both)

Corequisites: CHE 122

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 201 Organic Chemistry 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An organic chemistry course for students preparing for science-related employment or additional science education. Topics include: principles of carbon chemistry including bonding, structure, mechanisms, properties, reactions, synthesis, acids, and bases.

Prerequisites: CHE 122 and CHE 132 (minimum grade C for both)

Corequisites: CHE 211

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 202 Organic Chemistry 2****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of CHE 201. Topics include: mass spectrometry; infrared, ultraviolet/visible, and NMR spectroscopies; aromaticity; chemistry of benzene, carboxylic acids, amines, aldehydes, and ketones; and oxidation and reduction.

Prerequisites: CHE 201 and CHE 211 (minimum grade C for both)

Corequisites: CHE 212

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 211 Organic Chemistry 1 Lab****2 Credits. 0 Lecture Hour. 4 Lab Hours.**

A laboratory course that accompanies CHE 201. Laboratory experiences include: general organic laboratory techniques; isolation, purification, and identification of organic compounds; simple synthesis; and determination of unknowns.

Prerequisites: CHE 122 and CHE 132 (minimum grade C for both)

Corequisites: CHE 201

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 212 Organic Chemistry 2 Lab****2 Credits. 0 Lecture Hour. 4 Lab Hours.**

A laboratory course that accompanies CHE 202. Laboratory experiences include: simple, complex, and multistep synthesis; and isolation, purification, analysis, and identification of organic compounds.

Prerequisites: CHE 201 and CHE 211 (minimum grade C for both)

Corequisites: CHE 202

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**CHE 311 Chemistry and Analysis of Food 1****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

The first part of a two-semester biochemistry sequence for students seeking a bachelor's degree in Culinary and Food Science. Topics include: structure, nomenclature, chemical reactions, acid-base chemistry, and functionality of food components including water, sugars, carbohydrates, and lipids; and chemistry of changes that occur during food processing, storage, and utilization of these components.

Prerequisites: CHE 115 and MAT 151 (minimum grade C for both), and instructor consent

Instructor Consent Required

**CHE 312 Chemistry and Analysis of Food 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of CHE 311. Topics include: structure, nomenclature, chemical reactions, acid-base chemistry, and functionality of food components including proteins, enzymes, flavors, colorants, and other food nutrients and additives; chemistry of changes that occur during food processing, storage, and utilization of these components; and analysis of food components.

Prerequisites: CHE 311 (minimum grade C), and instructor consent

Instructor Consent Required

## CHW

### Courses

**CHW 100 Community Health Worker Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the community health worker's role, skills, and responsibilities, using concepts and curriculum requirements defined by the Ohio Board of Nursing Community Health Worker (CHW) Program. Topics include: health data collection, basic anatomy and physiology, basic medical terminology, health education, client communication, confidentiality, community advocacy and referral, and documentation and reporting. Students who complete CHW 100 and CHW 180 successfully may apply for professional certification as a CHW.

Prerequisites: None

Instructor Consent Required

**CHW 180 Community Health Worker Practicum****3 Credits. 1 Lecture Hour. 8 Lab Hours.**

Students complete 130 hours of clinical practice in a community agency or community health setting, performing functions of the community health worker under supervision of faculty and agency site supervisor, and attend a weekly on-campus seminar. Students who complete CHW 100 and CHW 180 successfully may apply for professional certification as a CHW.

Prerequisites: CHW 100, MCH 106 (minimum grade C for both)

Instructor Consent Required

# CIT

## Courses

### **CIT 100 Introduction to Engineering and Engineering Technologies**

**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course that prepares students for success in Engineering fields and Engineering Technologies fields including Biomedical, Civil, Environmental, Electrical, Industrial, and Mechanical. Topics include: investigating academic and career pathways; and building skills in measurement, data collection and graphing, problem solving, research, and basic computation.

Prerequisites: MAT 093 or appropriate placement

### **CIT 105 OSHA 10 General Industry Safety**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A review of OSHA requirements governing electrical safe work practices at manufacturing and service facilities. Topics include: requirements outlined in OSHA 29 CFR Part 1910 and NFPA Standard 70E. Students who complete the course successfully receive OSHA 10 certification.

Prerequisites: None

### **CIT 110 Introduction to Information Technologies**

**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course that prepares students for success in Information Technology fields. Topics include: investigating career pathways; and building skills in problem solving, research, basic computation, and other foundational concepts.

Prerequisites: None

### **CIT 120 Introductory Mathematics for Engineering Applications**

**5 Credits. 4 Lecture Hours. 2 Lab Hours.**

A course on math used within the context of engineering applications. Topics include: algebraic manipulations of engineering equations, trigonometry, vectors and complex numbers, sinusoids, systems of equations, differentiation, integration, and differential equations.

Prerequisites: ENG 085 and MAT 126 or MAT 152 or MAT 153 or appropriate placements

### **CIT 130 Engineering Programming with MATLAB**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on foundation skills in computer programming, using the MATLAB language and environment, for students in engineering technologies majors who have no programming experience. Topics include: variables, arrays, conditional statements, loops, functions, plots, and data acquisition and analysis.

Prerequisites: MAT 125 or appropriate placement

### **CIT 150 Applied Technology Studies: Advanced Sta**

**1-27 Credits. 1-27 Lecture Hour. 0 Lab Hour.**

Students complete courses or training programs or earn certifications that develop expertise in engineering technologies fields, and may receive up to 27 credit hours for these programs/certifications.

Prerequisites: Program Chair consent

Instructor Consent Required

### **CIT 190 Career Preparation: Engineering and Information Technologies**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on career planning and exploration for students in Engineering Technologies and Information Technologies fields. Topics include: self assessment, career research, resume development, interview skills, job search strategies, and cooperative education policies and procedures.

Prerequisites: ENG 085 and MAT 124, or appropriate placements

### **CIT 250 Engineering Community**

**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

Students participate in instructor-facilitated community service experiences to engage high school students and teachers in STEM (Science/Technology/Engineering/Mathematics) classroom activities that address applied engineering concepts.

Prerequisites: Instructor consent

Instructor Consent Required

# CMT

## Courses

### **CMT 111 Chemical Technology 1**

**1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A course on fundamental concepts and techniques in chemical technology. Topics include: the chemical technology major at Cincinnati State, career development, professional communication, chemical technicians' roles in industry, using Microsoft Office Suite, industrial/laboratory safety and hygiene, and laboratory statistics.

Prerequisites: None

### **CMT 112 Chemical Technology 2**

**1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A continuation of CMT 111. Topics include: maintenance, calibration, and use of laboratory glassware and equipment; solution preparation skills; laboratory math and statistics; and using computers for data analysis.

Prerequisites: CMT 111

### **CMT 171 Chemical Operator 1**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the Process Industry and the roles and responsibilities of Process Technicians. Topics include: applied chemistry and physics; process industry equipment; occupational safety; and skills and attitudes needed to succeed as a Process Technician.

Prerequisites: None

### **CMT 172 Chemical Operator 2**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of CMT 171, emphasizing chemical systems and operational processes and responsibilities of a Process Technician. Topics include: instrumentation, systems used in process technology operations, process documentation (P&ID's and PFDs), start-up and shut-down requirements, and process operator responsibilities.

Prerequisites: CMT 171

**CMT 191 Part-Time Cooperative Education 1: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

**CMT 192 Part-Time Cooperative Education 2: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 191

**CMT 193 Part-Time Cooperative Education 3: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 192

**CMT 194 Part-Time Cooperative Education 4: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 193

**CMT 195 Part-Time Cooperative Education 5: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 194

**CMT 196 Part-Time Cooperative Education 6: Chemical Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 195

**CMT 220 Analytical Chemistry****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on quantitative and qualitative chemical analysis with emphasis on wet chemical techniques. Topics include: sample preparation; volumetric, gravimetric, electrochemical, and separation methods; and statistical treatment of data.  
Prerequisites: CMT 112, CHE 122, and CHE 132

**CMT 230 Chemical Instrumental Analysis****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on quantitative and qualitative chemical analysis. Topics include: instrumental techniques, electrochemistry, atomic and molecular spectroscopy, gas and liquid chromatography, mass spectrometry, and statistical treatment of data.  
Prerequisites: CMT 220

Corequisites: CMT 285: Chemical Research

**CMT 285 Chemical Research****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

Students apply knowledge of instrumental analysis to complete an independent research project, including developing a procedure, performing necessary testing, applying statistical techniques, and incorporating the data into a formal report and oral presentation.  
Prerequisites: CMT 220

Corequisites: CMT 230: Chemical Instrumental Analysis

**CMT 291 Full-Time Cooperative Education 1: Chemical Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

**CMT 292 Full-Time Cooperative Education 2: Chemical Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 291

**CMT 293 Full-Time Cooperative Education 3: Chemical Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 292

**CMT 294 Internship 1: Chemical Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CMT 111

**CMT 295 Internship 2: Chemical Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CMT 294

# COMM

## Courses

**COMM 105 Interpersonal Communication****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study and practical application of principles of communication in human interactions. Topics include: self-awareness; perception; conflict; listening; interviewing; verbal and nonverbal codes; and cultural expectations and their effects on communication in family, classroom, work and intercultural settings.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Assurance Guide Approved

**COMM 110 Public Speaking****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the preparation and effective delivery of various types of speeches. Topics include: improved listening techniques, audience participation, and evaluation.

Prerequisites: ENG 101

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**COMM 115 Introduction to Journalism****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on basic principles of journalism, emphasizing techniques for reporting and writing news stories.

Prerequisites: ENG 101

**COMM 120 Mass Media and Society****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study and discussion of the role and function of mass media (newspapers, magazines, film, radio, TV, and computer multimedia) in today's society, including assessment of historical, business, and cultural perspectives and implications.

Prerequisites: ENG 101

Ohio Transfer Assurance Guide Approved

**COMM 130 Introduction to Film Studies****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on film as an expressive art and a cultural artifact, emphasizing American film from its inception to present. Topics include: developing critical awareness as an audience member; film history, genres, and themes; directing and acting styles; and technical elements of filmmaking.

Prerequisites: ENG 101

Ohio Transfer Module Approved

**COMM 205 Small Group Communication****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of the dynamics of communication in the small group context. Topics include: small group communication theory and research, awareness of personal and others' behaviors in small groups, enhancing individual functioning in groups, and analyzing/improving the functioning of other groups.

Prerequisites: COMM 105

Ohio Transfer Assurance Guide Approved

**COMM 215 Journalism Practicum****2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Study and application of journalism principles through faculty-supervised writing, editing, and production of a College publication. May be repeated for credit.

Prerequisites: COMM 115 or instructor consent

# CPDM

## Courses

**CPDM 120 Fundamentals of Object-Oriented Programming using Python****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of object-oriented programming using the Python programming language. Topics include: understanding Python; applying concepts of object-oriented design and programming by developing classes, methods, and properties using the principles of encapsulation, abstraction, inheritance, and polymorphism.

Prerequisites: IT 101 and IT 111 (minimum grade C for both)

**CPDM 145 Data Reporting****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on using Crystal Reports as the tool to design and deliver reports that include tables, charts, and graphs as part of a Web-based application linked to an SQL server database.

Prerequisites: IT 101, IT 110, IT 111 or CIT 110 (minimum grade C for all)

**CPDM 151 ASP.NET C# 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the ASP.NET framework using C#. Topics include: introduction to C# language and syntax, Web forms, server controls, master pages, AJAX, and data driven applications.

Prerequisites: IT 101, IT 110, IT 111, (minimum grade C for all)

**CPDM 152 ASP.NET C# 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of CPDM 151. Topics include: advanced ASP.NET server controls, building custom classes, Web services, designing Web applications from abstract requirements, and effectively utilizing online reference materials.

Prerequisites: CPDM 151

**CPDM 190 Cooperative Education Preparation: Computer Programming and Database Management****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that prepares students in the CPDM program for cooperative education. Topics include: using the PlacePro software system, resume development, interview skills, and cooperative education requirements, policies and procedures.

Prerequisites: None

**CPDM 191 Part-Time Cooperative Education 1: Computer Programming and Database Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**CPDM 192 Part-Time Cooperative Education 2: Computer Programming and Database Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 191

**CPDM 193 Part-Time Cooperative Education 3: Computer Programming and Database Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 192

**CPDM 194 Part-Time Cooperative Education 4: Computer Programming and Database Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 193

**CPDM 195 Part-Time Cooperative Education 5: Computer Programming and Database Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 194

**CPDM 196 Part-Time Cooperative Education 6: Computer Programming and Database Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CPDM 195

**CPDM 210 System Analysis and Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts in system analysis and design, within the framework of the system development life cycle. Topics include: business case analysis, requirement gathering, requirement modeling, enterprise modeling, and development strategies.

Prerequisites: None

**CPDM 211 Business Application Development 1: RPGLE/DB2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on the IBM operating system and utilities, including DB2, Control Language, Query, SDA, and SQL. Topics include: RPGLE utilization of forms/specifications, language operation codes and special functions used to generate reports, and transaction-level file maintenance.

Prerequisites: IT 102

**CPDM 212 Business Application Development 2: RPGLE/DB2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of CPDM 211. Topics include: RPGLE procedural programming including arrays/list processing, interactive applications, and subfiles; interactive and embedded SQL; and ILE programming through service programs to address introductory cross-platform programming.

Prerequisites: CPDM 211

**CPDM 230 Mobile Application Development****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on designing and programming applications for current mobile devices. Topics include: GUI programming application structure; and considerations related to networks, databases, video, GPS sensors, and multi-touch technology.

Prerequisites: IT 102

**CPDM 240 Emerging Technologies: Web and Mobile Applications****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on emerging technologies in software and applications development for the web and mobile devices.

Prerequisites: CPDM 230

**CPDM 250 Game Design and Society****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course that examines the interdisciplinary natures of games and the fundamentals of game design. Topics include: history of games and play in society; game genres; game technical and experiential features; characteristics of game players; and creating game concepts, worlds, and characters.

Prerequisites: IT 117

**CPDM 255 Web Game Development****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on introductory programming for web games and similar interactive media using web programming languages such as JavaScript and HTML. Topics include: game programming frameworks, web programming syntax, web programming libraries for games, using a game loop, using sprites, interactive GUI programming, and creating the game environment.

Prerequisites: CPDM 250

**CPDM 290 Computer Programming and Database Management Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students work on a team project that demonstrates mastery of skills gained throughout their degree studies. Topics include: developing a project idea, conducting a feasibility study for the idea, gathering and analyzing requirements, and designing and implementing a solution. Prerequisites: IT 218 or IT 262 or SET 253

**CPDM 291 Full-Time Cooperative Education 1: Computer Programming and Database Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: None

**CPDM 292 Full-Time Cooperative Education 2: Computer Programming and Database Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CPDM 291

**CPDM 293 Full-Time Cooperative Education 3: Computer Programming and Database Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CPDM 292

**CPDM 294 Internship 1: Computer Programming and Database Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CPDM 190

**CPDM 295 Internship 2: Computer Programming and Database Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CPDM 294

**CPDM 296 Project-Based Learning 1****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time project-based learning experience related to their degree. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: IT 102

**CPDM 297 Project-Based Learning 2****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time project-based learning experience related to their degree. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CPDM 296 or CPDM 291

## CRJ

### Courses

**CRJ 102 Juvenile Delinquency****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on juvenile delinquency and the juvenile court system. Prerequisites: ENG 085 or appropriate placement

**CRJ 105 Introduction to Criminal Justice****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the American criminal justice system. Topics include: police, courts, corrections, constitutional issues, citizen participation, and current practice. Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

**CRJ 110 Introduction to Policing****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on structure and practices of policing in the United States. Topics include: relationship of police agencies to other elements of the justice system, diversity, drug enforcement, corruption and reform, community relations, and effects of technology on policing. Prerequisites: CRJ 105  
Ohio Transfer Assurance Guide Approved

**CRJ 115 Introduction to Corrections****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the history, principles, and practices of the American corrections system. Topics include: incarceration, parole, and probation; operations of jails and prisons; and alternatives to incarceration including community-based programs. Prerequisites: CRJ 105  
Ohio Transfer Assurance Guide Approved

**CRJ 120 Introduction to Courts****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the history, principles, and practices of the American court system. Topics include: purposes of different types of courts; members of the courtroom work group; trial, sentencing, and appellate processes; and the role of courts in society. Prerequisites: CRJ 105

**CRJ 125 Criminology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theoretical explanations for criminal behavior. Topics include: major historical developments in understanding criminal behavior, major types of crime measures, and the nature and extent of criminal victimization. Prerequisites: CRJ 105  
Ohio Transfer Assurance Guide Approved



**CRJ 130 Criminal Investigation Skills****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on basic criminal investigation processes and techniques. Topics include: criminalistics, forensics, types of evidence, procedures for handling evidence, and admissibility of evidence.

Prerequisites: CRJ 105

**CRJ 135 Criminal Law****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the American legal system emphasizing a criminal justice perspective. Topics include: theories of law, elements of criminal offenses, defenses to criminal acts, and constitutional rights of those charged with a criminal offense.

Prerequisites: CRJ 105

# CSA

## Courses

**CSA 111 Computer Repair 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on theory and operation of computer systems. Topics include: operating systems, interface of operating systems and hardware, central processing unit (CPU) structures and evolution, bus structures, memory, data storage, input/output devices, motherboard structures, number systems, and USB/IEEE 1392 data transmission.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**CSA 112 Computer Repair 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of CSA 111. Topics include: examining the board/component level of computer systems while using diagnostic software and instrumentation to isolate failures and restore systems to normal operation.

Prerequisites: CSA 111

**CSA 191 Part-Time Cooperative Education 1: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**CSA 192 Part-Time Cooperative Education 2: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 191

**CSA 193 Part-Time Cooperative Education 3: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 192

**CSA 194 Part-Time Cooperative Education 4: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 193

**CSA 195 Part-Time Cooperative Education 5: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 194

**CSA 196 Part-Time Cooperative Education 6: Computer Support and Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 195

**CSA 213 Computer Repair 3****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of CSA 112. Topics include: specialized hardware, peripheral devices, system optimization, driver installation, internet connectivity, and printer maintenance.

Prerequisites: CSA 112

**CSA 290 Computer Support and Administration Capstone****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

Students work in teams to complete a design project using analog and digital concepts, and prepare a presentation of results. Topics include: design theory, feasibility study, project economics, team building, and effective presentations.

Prerequisites: CSA 112, and NETA 115 or NETC 121

**CSA 291 Full-Time Cooperative Education 1: Computer Support and Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**CSA 292 Full-Time Cooperative Education 2: Computer Support and Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 291

**CSA 293 Full-Time Cooperative Education 3: Computer Support and Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 292

**CSA 294 Internship 1: Computer Support and Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**CSA 295 Internship 2: Computer Support and Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CSA 294

## CUL

### Courses

**CUL 100 Culinary Demonstration****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that uses culinary demonstrations and problem solving to prepare students for activities in CUL 101.

Prerequisites: MAT 093 or appropriate placement

Corequisites: CUL 101

Instructor Consent Required

**CUL 101 Culinary 1****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on fundamental culinary skills. Topics include: kitchen orientation, knife skills, cooking methods, and preparation of stocks, sauces, and soups.

Prerequisites: MAT 093 (minimum grade C) or appropriate placement

Corequisites: CUL 100

Instructor Consent Required

**CUL 102 Culinary 2****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A continuation of CUL 101. Topics include: advanced cooking methods; meat, fish, and poultry cookery; and platter presentation.

Prerequisites: CUL 100 and CUL 101 and CUL 115 (minimum grade C for all)

Instructor Consent Required

**CUL 105 Culinary Baking****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on concepts and techniques of baking and pastries. Topics include: product identification, use of baking equipment, production of flour confectionery items, and preparation of desserts.

Prerequisites: CUL 100 and CUL 101 (minimum grade C for both)

Instructor Consent Required

**CUL 110 Culinary Nutrition****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on concepts and techniques for combining nutrition science with the art of preparing food that is wholesome and nutritionally balanced. Topics include: practical applications of nutrition theory, modifying recipes, and developing menus.

Prerequisites: CUL 102 (minimum grade C)

Instructor Consent Required

**CUL 115 Food Service Sanitation****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on sanitation and safety in the food service industry. Students complete the ServSafe certification exam as part of this course.

Prerequisites: ENG 085 or appropriate placement

**CUL 150 Culinary Management ATS: Advanced Stand****30 Credits. 30 Lecture Hours. 0 Lab Hour.**

Students complete industry training specific to culinary education, such as Cincinnati Cooks.

Prerequisites: Program Chair consent

Instructor Consent Required

**CUL 191 Part-Time Cooperative Education 1: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent

Instructor Consent Required

**CUL 192 Part-Time Cooperative Education 2: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CUL 191

**CUL 193 Part-Time Cooperative Education 3: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CUL 192

**CUL 194 Part-Time Cooperative Education 4: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CUL 193

**CUL 195 Part-Time Cooperative Education 5: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CUL 194

**CUL 196 Part-Time Cooperative Education 6: Culinary Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: None

**CUL 200 Garde Manger****4 Credits. 0 Lecture Hour. 8 Lab Hours.**

A course on concepts and techniques for contemporary practice of garde manger. Topics include: basic meat fabrication, knowledge of the cold kitchen, and platter and buffet presentation. Prerequisites: CUL 102 and CUL 105 (minimum grade C for both) Instructor Consent Required

**CUL 205 Culinary Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on concepts of food service production and service techniques. Topics include: buffet, banquet, and a la carte production. Prerequisites: CUL 102 (minimum grade C) and BUS 190 Instructor Consent Required

**CUL 210 International Cuisine****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A study of world cuisines. Topics include: regional products, cultural influences on food, differentiated cooking techniques, and international menus. Prerequisites: CUL 200 (minimum grade C) Instructor Consent Required

**CUL 290 Culinary Capstone****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

Students complete project work while applying knowledge and skills from culinary, nutrition, costing, and management areas. Prerequisites: CUL 110 and CUL 200 and CUL 205 (minimum grade C for all)

**CUL 291 Full-Time Cooperative Education 1: Culinary Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent Instructor Consent Required

**CUL 292 Full-Time Cooperative Education 2: Culinary Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CUL 291

**CUL 293 Full-Time Cooperative Education 3: Culinary Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CUL 292

## CULT

### Courses

**CULT 105 Issues in Human Diversity****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A survey of concepts of human diversity and the effects of diversity on individuals and society. Topics include: race; gender; social class; sexual orientation; ableism; stereotypes, bias, and discrimination; and diversity in the workplace. Prerequisites: ENG 085 or appropriate placement

**CULT 110 Social Issues in Technology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A survey of social issues that affect professionals in engineering and information technology fields. Topics include: work skills for the 21st century, professional ethics and whistleblowing, diversity in the workplace, social effects of globalization, and the impact of natural and engineering disasters. Prerequisites: ENG 101

**CULT 200 Introduction to Cultural Studies****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on examining and understanding how cultural processes and artifacts seen in the media and in everyday life are produced, distributed, consumed, and interpreted. Topics include: theories and analytical approaches, and cultural phenomena such as politics, power, and violence; gender and sexuality; and ethnicity and multiculturalism. Prerequisites: ENG 101 (minimum grade C)

## DMS

### Courses

**DMS 100 Survey of Sonography****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on foundational concepts in the field of medical sonography. Topics include: the role of the sonographer in the healthcare setting, ultrasound system controls and functions, image production and display, and basic ultrasound physics. Prerequisites: BIO 151 and MCH 104 (minimum grade C for both) Corequisites: BIO 152

**DMS 111 Sonographic Principles and Instrumentation 1**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of physics in relation to ultrasound function and instrumentation. Topics include: characteristics of sound energy; using ultrasound in imaging; and waveforms, propagation, velocity, wavelength, acoustic impedance, reflection, and other types of interaction with tissue.

Prerequisites: MAT 150

Instructor Consent Required

**DMS 112 Sonographic Principles and Instrumentation 2**  
**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DMS 111. Topics include: integrating knowledge of physics with instrumentation theory and applications; understanding advanced signal processing, complex instrumentation, recording devices, biological effects, hemodynamics, Doppler principles, and quality control methods; and producing high quality diagnostic images.

Prerequisites: DMS 111

**DMS 255 Ethics and Medical Law in Sonography**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on ethical and legal issues related to the sonography profession. Topics include: laboratory accreditation, professional education, and research standards and practices.

Prerequisites: DMSC 232 and DMSC 242, or DMSG 232 and DMSG 242 (minimum grade C for all)

## DMSC

### Courses

**DMSC 110 Advanced Electrocardiography**  
**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on electrocardiography principles and techniques. Topics include: patient preparation, 12-lead ECG setup and interpretation, common dysrhythmia recognition, myocardial infarct patterns, and chamber enlargement.

Prerequisites: Admitted to the DMS program through the selective enrollment process, and instructor consent

Instructor Consent Required

**DMSC 120 Cardiovascular Sonography**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on cardiovascular scanning techniques and the operation of ultrasound systems. Topics include: professional standards and behaviors, basic ultrasound machine controls, scan planes, demonstration of appropriate imaging, and use of descriptive terminology associated with cardiac and vascular studies.

Prerequisites: Instructor consent

Corequisites: DMSC 121: Cardiovascular Sonography Scan Lab 1

Instructor Consent Required

**DMSC 121 Cardiovascular Sonography Scan Lab 1**  
**2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on developing skills in the scanning techniques and protocols related to cardiac and vascular structures and physiology.

Prerequisites: Instructor consent

Corequisites: DMSC 120: Cardiovascular Sonography DMS 111 : Sonographic Principles and Instrumentation 1 DMSC 110 : Advanced Electrocardiography

Instructor Consent Required

**DMSC 122 Cardiovascular Sonography Scan Lab 2**  
**2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A continuation of DMSC 121, emphasizing increased experience using scanning techniques and protocols related to cardiac and vascular structures and physiology.

Prerequisites: DMSC 121 (minimum grade C)

Corequisites: DMSC 131 : Vascular Sonography 1 DMSC 141 :

Echocardiography 1 DMS 112 : Sonographic Principles and

Instrumentation 2

**DMSC 131 Vascular Sonography 1**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theory and principles of vascular sonography. Topics include: vascular anatomy and physiology; etiology of pathologies; imaging techniques and protocols; and detecting and differentiating abnormalities, pathologies, and other deviations from normal development.

Prerequisites: DMSC 120 and DMSC 121 (minimum grade C for both)

Corequisites: DMSC 141 : Echocardiography 1 DMSC 122 :

Cardiovascular Sonography Scan Lab 2 DMS 112 : Sonographic

Principles and Instrumentation 2

**DMSC 141 Echocardiography 1**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theory and principles of adult cardiac sonography. Topics include: cardiac anatomy and physiology; etiology of pathologies; imaging techniques and protocols; and detecting and differentiating abnormalities, pathologies, and other deviations from normal development.

Prerequisites: DMSC 120 and DMSC 121 (minimum grade C for both)

Corequisites: DMSC 131 : Vascular Sonography 1 DMSC 122 :

Cardiovascular Sonography Scan Lab 2 DMS 112 : Sonographic

Principles and Instrumentation 2

**DMSC 223 Cardiovascular Sonography Scan Lab 3**  
**1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A continuation of DMSC 122, emphasizing increased skills and experience using scanning techniques and protocols related to cardiac and vascular structures and physiology.

Prerequisites: DMSC 122 (minimum grade C)

**DMSC 224 Cardiovascular Sonography Scan Lab 4**  
**2 Credits. 0 Lecture Hour. 4 Lab Hours.**

Students demonstrate required sonography competencies and proficiencies prior to completion of the program.

Prerequisites: DMSC 223

**DMSC 232 Vascular Sonography 2**  
**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DMSC 131, with additional information on theory and principles of vascular sonography.

Prerequisites: DMSC 131 (minimum grade C)

**DMSC 242 Echocardiography 2**  
**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DMSC 141, with additional information on theory and principles of adult cardiac sonography.

Prerequisites: DMSC 141 (minimum grade C)

**DMSC 245 Cardiovascular Specialties**  
**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on advanced procedures and emerging technologies in the field of cardiovascular ultrasound.

Prerequisites: DMSC 232, DMSC 242 (minimum grade C for both)

**DMSC 250 Cardiovascular Imaging Seminar****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on integration of concepts and clinical applications in cardiovascular sonography. Topics include: current trends and advanced cardiovascular procedures and technologies, transition to an entry-level cardiovascular sonography position, mock registry examinations, and preparation for national credentialing examinations. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: DMSC 224, DMSC 232, and DMSC 242 (minimum grade C for all)

**DMSC 281 Cardiovascular Internship 1****1 Credit. 0 Lecture Hour. 24 Lab Hours.**

Students participate in supervised practice of cardiac and vascular diagnostic ultrasound procedures in hospitals, clinics, and private physician offices. Students are evaluated on professional behavior and performance, and clinical competency.

Prerequisites: DMSC 122 and DMSC 131 and DMSC 141 (minimum grade C for all)

Corequisites: DMSC 223 : Cardiovascular Sonography Scan Lab 3

**DMSC 282 Cardiovascular Internship 2****1 Credit. 0 Lecture Hour. 24 Lab Hours.**

A continuation of DMSC 281. Students participate in supervised practice of cardiac and vascular diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.

Prerequisites: DMSC 281

Corequisites: DMSC 232 : Vascular Sonography 2 DMSC 242 : Echocardiography 2 DMSC 224 : Cardiovascular Sonography Scan Lab 4

**DMSC 283 Cardiovascular Internship 3****2 Credits. 0 Lecture Hour. 32 Lab Hours.**

A continuation of DMSC 282. Students participate in supervised practice of cardiac and vascular diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.

Prerequisites: DMSC 282

Corequisites: DMSC 250 : Cardiovascular Imaging Seminar

## DMSG

### Courses

**DMSG 110 Sterile Techniques****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamental surgical skills and surgical room set-up procedures. Topics include: rules and regulations for sterile environments, sterile trays and other equipment, technician behavior in sterile environments, infection risk control, surgical asepsis, anesthesia, and specimen care.

Prerequisites: Admitted to the DMS program through the selective enrollment process, and instructor consent  
Instructor Consent Required

**DMSG 120 General Imaging Sonography****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on general imaging scanning techniques and the operation of ultrasound systems. Topics include: professional standards and behaviors, basic ultrasound machine controls, scan planes, demonstration of appropriate imaging techniques, and use of descriptive terminology associated with abdomen, obstetrics, and gynecological studies.

Prerequisites: Instructor consent

Corequisites: DMSG 121: General Imaging Sonography Scan Lab 1  
Instructor Consent Required

**DMSG 121 General Imaging Sonography Scan Lab 1****2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on developing skills in the scanning techniques and protocols related to abdominal, superficial parts, obstetrics, and gynecological structures and physiology.

Prerequisites: Instructor consent

Corequisites: DMSG 120: General Imaging Sonography DMS 111 : Sonographic Principles and Instrumentation 1 DMSG 110 : Sterile Techniques  
Instructor Consent Required

**DMSG 122 General Imaging Sonography Scan Lab 2****2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A continuation of DMSG 121, emphasizing increased experience using scanning techniques and protocols related to abdominal, superficial parts, obstetrics, and gynecological structures and physiology.

Prerequisites: DMSG 121 (minimum grade C)

Corequisites: DMSG 131 : Abdominal Sonography 1 DMSG 141 : Obstetrics and Gynecology Sonography 1 DMS 112 : Sonographic Principles and Instrumentation 2

**DMSG 131 Abdominal Sonography 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theory and principles of abdominal and superficial parts sonography. Topics include: normal and abnormal etiology, diagnostic techniques and correlation with clinical tests, scanning techniques and protocols, and detection of abnormalities and pathologies.

Prerequisites: DMSG 120 and DMSG 121 (minimum grade C for both)

Corequisites: DMSG 141 : Obstetrics and Gynecology Sonography 1 DMSG 122 : General Imaging Sonography Scan Lab 2 DMS 112 : Sonographic Principles and Instrumentation 2

**DMSG 141 Obstetrics and Gynecology Sonography 1****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theory and principles of obstetrical and gynecological sonography. Topics include: normal and abnormal etiology; diagnostic techniques related to gynecology and fetal development; scanning techniques and protocols; and detecting abnormalities, pathologies, and other deviations from normal development.

Prerequisites: DMSG 120 and DMSG 121 (minimum grade C for both)

Corequisites: DMSG 131 : Abdominal Sonography 1 DMSG 122 : General Imaging Sonography Scan Lab 2 DMS 112 : Sonographic Principles and Instrumentation 2

**DMSG 223 General Imaging Sonography Scan Lab 3****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A continuation of DMSG 122, emphasizing increased experience using scanning techniques and protocols related to abdominal, superficial parts, obstetrics, and gynecological structures and physiology.

Prerequisites: DMSG 122 (minimum grade C)

**DMSG 224 General Imaging Sonography Scan Lab 4****2 Credits. 0 Lecture Hour. 4 Lab Hours.**

Students demonstrate required sonography competencies and proficiencies prior to completion of the program.

Prerequisites: DMSG 223

**DMSG 232 Abdominal Sonography 2****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DMSG 131, with additional information on theory and principles of abdominal and superficial parts sonography.

Prerequisites: DMSG 131 (minimum grade C)

**DMSG 242 Obstetrics and Gynecology Sonography 2****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DMSG 141, with additional information on theory and principles of obstetrical and gynecological sonography.

Prerequisites: DMSG 141 (minimum grade C)

**DMSG 245 General Imaging Specialties****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on advanced procedures and emerging technologies in the field of general imaging ultrasound.

Prerequisites: DMSG 232, DMSG 242 (minimum grade C for both)

**DMSG 250 General Imaging Seminar****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on integration of concepts and clinical applications in general sonography. Topics include: current trends and advanced sonographic procedures and technologies, transition to an entry-level general imaging sonography position, mock registry examinations, and preparation for national credentialing examinations. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: DMSG 224, DMSG 232 and DMSG 242 (Minimum grade C for all)

**DMSG 281 General Imaging Internship 1****1 Credit. 0 Lecture Hour. 24 Lab Hours.**

Students participate in supervised practice of general imaging and obstetrical diagnostic ultrasound procedures in hospitals, clinics, and private physician offices. Students are evaluated on professional behavior and performance, and clinical competency.

Prerequisites: DMSG 122 and DMSG 131 and DMSG 141 (minimum grade C for all)

Corequisites: DMSG 223 : General Imaging Sonography Scan Lab 3

**DMSG 282 General Imaging Internship 2****1 Credit. 0 Lecture Hour. 24 Lab Hours.**

A continuation of DMSG 281. Students participate in supervised practice of general imaging and obstetrical diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.

Prerequisites: DMSG 281

Corequisites: DMSG 232 : Abdominal Sonography 2 DMSG 242 : Obstetrics and Gynecology Sonography 2

**DMSG 283 General Imaging Internship 3****2 Credits. 0 Lecture Hour. 32 Lab Hours.**

A continuation of DMSG 282. Students participate in supervised practice of general imaging and obstetrical diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.

Prerequisites: DMSG 282

Corequisites: DMSG 250 : General Imaging Seminar

# DT

## Courses

**DT 110 Community Nutrition****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A study of public health nutrition programs in the U.S. Topics include: food availability; laws, regulations, and policies; and the influence of socioeconomic, cultural, and psychological factors on food and nutrition behavior. Students participate in supervised practice.

Prerequisites: ENG 085 and MAT 093, or appropriate placements, and instructor consent

Corequisites: DT 190

Instructor Consent Required

**DT 115 Cooking for a Healthy Lifestyle****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on food preparation techniques and healthy food choices for individuals. Topics include: preparing and evaluating healthy foods, modifying recipes, food safety, alternative food choices, and special diet considerations.

Prerequisites: ENG 085 or appropriate placement

**DT 120 Nutrition for a Healthy Lifestyle****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to nutrition concepts and diets for healthy living. Topics include: health risks; socioeconomic, cultural, psychological, and environmental influences; health promotion; disease prevention; complementary, alternative, and herbal therapies; dietary supplements; and lifecycle nutrition.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

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**DT 125 Nutrition Through the Lifecycle****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on nutritional needs from preconception through maturity. Topics include: influence of age, growth, and normal development on nutritional requirements; diet planning principles for diverse age groups; and promoting healthy eating to reduce age-related nutrition problems.

Prerequisites: DT 120 (minimum grade C)

**DT 130 Nutrition Assessment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on principles of assessment for normal nutrition. Topics include: the nutrition care process, anthropometrics, drug/nutrient interactions, collecting and interpreting lab values, computerized analysis, and interviewing and counseling skills.

Prerequisites: DT 120 (minimum grade C) and instructor consent

Corequisites: DT 180

Instructor Consent Required

**DT 135 Sports Nutrition****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the nutrition needs of active people and athletes. Topics include: nutrient requirements for optimal health, fitness, and sports; weight control; popular nutrition supplements; and ergogenic aids.

Prerequisites: DT 120 (minimum grade C)

**DT 180 Dietetic Directed Practice: Health Care 1****1 Credit. 0 Lecture Hour. 5 Lab Hours.**

Students participate in supervised practice in health care and acute care settings. Topics include: nutrition care process, assessment techniques, lifecycle nutrition, interviewing skills, screening, monitoring food and nutrient intake, and menu modification.

Prerequisites: DT 120 (minimum grade C) and instructor consent

Corequisites: DT 130

Instructor Consent Required

**DT 190 Dietetic Professional Practices****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that prepares Dietetic Technology students for clinical and management practices and practicums. Topics include: dietetic professional practice requirements, review of student handbook, dietetic licensure, HIPAA, and blood-borne pathogen and safety training.

Prerequisites: ENG 080 and MAT 093, or appropriate placements, and instructor consent

Corequisites: DT 110

Instructor Consent Required

**DT 205 Quantity Food Production****3 Credits. 1 Lecture Hour. 4 Lab Hours.**

A course on quantity food production practices. Topics include: identification, care, and use of institutional food service equipment; standardized recipes; quality assurance; work efficiency; costing; and food evaluation.

Prerequisites: HRM 105

**DT 211 Food Service Management 1****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts of food service management. Topics include: meal service and delivery systems, evaluating meal production, performance standards, scheduling, and staffing.

Prerequisites: DT 120 (minimum grade C) and instructor consent

Corequisites: DT 280

Instructor Consent Required

**DT 212 Food Service Management 2****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of DT 211. Topics include: management responsibilities, interviewing and recruiting, performance review, productivity, work simplification, budgeting, and professional ethics.

Prerequisites: DT 211 (minimum grade C) and instructor consent

Corequisites: DT 287

Instructor Consent Required

**DT 215 Nutrition for Dietary Managers****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on nutrition concepts related to the Dietary Manager's scope of practice. Topics include: medical nutrition therapy, documentation, care planning, nutrition education, and healthcare regulations.

Prerequisites: DT 125 (minimum grade C) and instructor consent

Instructor Consent Required

**DT 221 Medical Nutrition Therapy 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on nutrition care processes and diet modification for various disease states. Topics include: weight management, upper and lower gastrointestinal tract, diabetes, parenteral and enteral nutrition, swallowing, and feeding disorders.

Prerequisites: DT 130 (minimum grade C) and instructor consent

Corequisites: DT 285

Instructor Consent Required

**DT 222 Medical Nutrition Therapy 2****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of DT 221. Topics include: nutrition in severe stress; renal disease; liver disease; cancer; HIV and AIDS; heart, lung, and blood vessel diseases; and pressure ulcers and burns.

Prerequisites: DT 221 (minimum grade C) and instructor consent

Corequisites: DT 289

Instructor Consent Required

**DT 225 Dietary Manager Exam Review****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that prepares students to take the Dietary Manager credentialing examination.

Prerequisites: Complete all required DT courses (minimum grade C for all), and instructor consent

Instructor Consent Required

**DT 280 Dietetic Directed Practice: Food Service****1 Credit. 0 Lecture Hour. 6 Lab Hours.**

Students participate in supervised practice in a health care food service setting. Topics include: food service management, human resources, sanitation, procurement, distribution and food cost, menu cost, recipe development, and equipment specifications.

Prerequisites: DT 110 and DT 222 and instructor consent

Corequisites: DT 211

Instructor Consent Required

**DT 283 Dietetic Directed Practice: Health Care 2****1 Credit. 0 Lecture Hour. 5 Lab Hours.**

Students participate in supervised practice in a health care setting. Topics include: applying the nutrition care process, care plans, enteral and parenteral nutrition, transitional feeding, severe stress, and disorders of lower and upper gastrointestinal tract.

Prerequisites: DT 180 (minimum grade C) and instructor consent

Corequisites: DT 221

Instructor Consent Required

**DT 285 Dietetic Directed Practice: Health Care 3****1 Credit. 0 Lecture Hour. 5 Lab Hours.**

Students participate in supervised practice in a health care setting while building on previous directed practice experience. Topics include: quality improvement, health care regulations, and pediatric nutrition assessment.

Prerequisites: DT 180 and instructor consent

Corequisites: DT 221

Instructor Consent Required

**DT 287 Dietetic Practicum: Food Service****2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students participate in unpaid work experience in a food service management setting and complete an individualized final project agreed upon by the student and instructor.

Prerequisites: DT 280 (minimum grade C) and instructor consent

Corequisites: DT 212

Instructor Consent Required

**DT 289 Dietetic Practicum: Clinical****2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students participate in unpaid work experience in a health care setting, complete individual curriculum goals, and review Academy of Nutrition and Dietetics competencies.

Prerequisites: DT 283 and DT 285 and instructor consent

Corequisites: DT 222: Medical Nutrition Therapy 2

Instructor Consent Required

**DT 290 Dietetic Competencies****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that prepares students for the Dietetic Technician Registration Exam and entry into the dietetic profession. Topics include: exam review, clinical and food service review, and professional portfolio development. Students must pass a final competency exam to pass this course.

Prerequisites: Complete all required DT courses (minimum grade C for all), and instructor consent

Instructor Consent Required

## ECC

### Courses

**ECC 145 Diverse Populations and Families****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for teaching diverse populations in early childhood settings. Topics include: developing positive relationships in diverse family units, inclusion, multiculturalism, and adapting learning environments to include gifted children and children with disabilities.

Prerequisites: None

## ECE

### Courses

**ECE 111 Child Development Associate 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

This course provides 60 of the 120 clock-hours of training required by the Council for Early Childhood Professionals Recognition/ CDA National Credential Program. Topics include: six competency standards and 13 functional areas required for the credential program, focusing on the competency areas safe and healthy environments, physical and intellectual competence, and social and emotional development.

Prerequisites: None

**ECE 112 Child Development Associate 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of ECE 111 that provides 60 clock-hours of additional training. Topics include: six competency standards and 13 functional areas, focusing on relationships with families, program organization, and professionalism, as well as preparing for the competency test and portfolio review.

Prerequisites: ECE 111

**ECE 145 The Developing Child****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on growth and development of children from birth through age eight. Topics include: characteristics and needs of children for physical, cognitive, language, social, and emotional growth and development; and theories of early childhood education.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement

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**ECE 155 Health, Safety, and Nutrition in Childhood****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for managing health, safety, and nutrition in child care settings serving infants through school age children. Topics include: childhood communicable diseases, licensing requirements, and nutritional needs of young children.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement

**ECE 160 Assessment and Observation in Early Childhood Education****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategic and purposeful techniques for observing, recording, and assessing the progress of children from infants to school age.

Prerequisites: EDU 105 and ECE 145 (minimum grade C for both)

**ECE 165 Emergent Literacy****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on growth and development of oral language from birth to school age. The course meets the Ohio Early Learning Standards for reading and writing for young children. Topics include: the study of reading and writing, the teacher's role in promoting early literacy, and phonemic awareness.

Prerequisites: EDU 105 and ECE 145 (minimum grade C for both)

**ECE 175 Family, Community, and Schools****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for parent/teacher collaboration. Topics include: effective communication among parents, teachers, and other professionals for enhancing child development; maintaining positive relationships; and working with diverse family units.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement

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**ECE 180 Infant and Toddler Environments****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for care and nurturing of infants and toddlers. Topics include: promoting growth and development, classroom management, and developmentally appropriate practice. Students spend three hours per week in an early childhood care setting.

Prerequisites: ECE 145 and EDU 105 (minimum grade C for both)



**ECE 185 Creative Learning Environments****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on creating learning experiences for young children. Topics include: art, music, social studies, math, and science curricula; indoor and outdoor play; and selecting developmentally appropriate materials and equipment.

Prerequisites: EDU 105 and ECE 145 (minimum grade C for both)

**ECE 215 Classroom Management and Guidance****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for management of early educational classrooms, and implementation of developmentally appropriate practice and guidance for children from birth to age eight.

Prerequisites: ECE 145 and EDU 105 (minimum grade C for both)

**ECE 220 Preschool and School Age Environments****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on concepts, techniques, and educational theories for teaching preschool and school age children. Topics include: learning through play, promoting growth and development, classroom management, and developmentally-appropriate practice. Students spend three hours per week in a preschool setting.

Prerequisites: ECE 180 (minimum grade C)

**ECE 230 Administration and Leadership in Early Childhood Education****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on organizing, operating, and managing child care facilities and family child care homes. Topics include: licensing requirements, record keeping, budgeting, working with staff and parents, team building, resolving conflicts, and other leadership skills.

Prerequisites: ECE 220 (minimum grade C)

**ECE 290 Student Teaching in Early Childhood Education****3 Credits. 1 Lecture Hour. 14 Lab Hours.**

Students spend a minimum of 14 hours per week in a supervised student teaching experience in an approved early childhood care/education setting. Students must prepare a professional portfolio. Placement settings should be accredited or meet requirements for Ohio Step Up To Quality Level 3, and serve culturally, linguistically, and socio-economically diverse student populations.

Prerequisites: ECE 220 (minimum grade C) and ECE Program Chair consent

## ECO

### Courses

**ECO 105 Principles of Microeconomics****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of basic concepts of microeconomics. Topics include: supply and demand, equilibrium processes, consumer choice, firm pricing and output behavior, industry structure, government antitrust regulation, externalities, economic welfare, and income distribution.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both) or appropriate placements

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**ECO 110 Principles of Macroeconomics****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of the economic macro-system. Topics include: analysis of inflation and unemployment, government monetary and fiscal policy, aggregate income analysis, consumption, savings and investment, long run growth policies and budget deficits, foreign trade flows, and exchange rate policies.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both) or appropriate placements

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## EDU

### Courses

**EDU 105 Introduction to Education****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to the teaching profession. Topics include: purposes of schools in society; and knowledge, dispositions, and performance required to be an effective teacher.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement

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**EDU 110 Educational Technology****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on using educational technology as an instructional resource. Topics include: types and uses of software, selecting technologies for achieving curricular goals, and aligning electronic media production with instructional goals.

Prerequisites: IM 105, and ENG 085 (minimum grade C) or appropriate placement

**EDU 200 Individuals with Exceptionalities****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for working with children and youth with exceptionalities, in varied educational and community settings. Topics include: identifying developmental characteristics for physical, cognitive, and social development disabilities; adapting learning environments; giftedness; legal issues; and community resources.

Prerequisites: EDU 105 (minimum grade C)

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**EDU 210 Learning in Childhood****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on major theories of human development and learning. Topics include: motivation, instructional strategies, assessment, similarities and differences in learners, and other factors affecting student learning and development.

Prerequisites: PSY 110

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# EET

## Courses

### **EET 100 Introduction to Electrical Engineering Technology** **2 Credits. 1 Lecture Hour. 2 Lab Hours.**

An introduction to concepts and measuring skills for the electronics field. Topics include: current, voltage, power, Ohm's law, series circuits, meter reading, software simulation use, and circuit construction.

Prerequisites: MAT 093 or appropriate placement

### **EET 101 Electronic Fundamentals 1** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on electrical fundamentals for non-electrical majors. Topics include: DC and AC circuit theory, electrical motors and controls, electromagnetic devices, and transformers.

Prerequisites: MAT 096 or MAT 124, and ENG 085, or appropriate placements

### **EET 121 Digital Systems 1** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on analyzing, designing, and troubleshooting digital logic circuits. Topics include: basic gates and programmable logic devices (PLDs); number systems and codes; Boolean algebra; circuit simplification; and functions of logic circuits, latches, flip-flops, counters, timers, and memory.

Prerequisites: EET 131, and MAT 124 (minimum grade C) or appropriate placement

### **EET 122 Digital Systems 2** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of EET 121. Topics include: counter design and cascading, shift registers, PLD applications, microprocessor registers, input/output (I/O), busses, direct memory access (DMA), memory expansion, and assembly language programming.

Prerequisites: EET 121

### **EET 131 Circuit Analysis 1** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on DC electric circuits. Topics include: current, voltage, resistance, and power; laws applied to series, parallel, and series-parallel circuits; Thevenin's, Superposition, and Norton's theorems; steady state and transient behavior of capacitive and inductive devices; and magnetic properties.

Prerequisites: MAT 124 (minimum grade C) or appropriate placement  
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Ohio Career-Technical Assurance Guide Approved

### **EET 132 Circuit Analysis 2** **4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of EET 131. Topics include: sinusoidal wave characteristics; complex numbers; phasors; transformers; RC, RL, and RLC networks; filter networks; three-phase and poly-phase systems; and power factor analysis.

Prerequisites: EET 131, and MAT 125 (minimum grade C) or appropriate placement

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### **EET 191 Part-Time Cooperative Education 1: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### **EET 192 Part-Time Cooperative Education 2: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 191

### **EET 193 Part-Time Cooperative Education 3: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 192

### **EET 194 Part-Time Cooperative Education 4: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 193

### **EET 195 Part-Time Cooperative Education 5: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 194

### **EET 196 Part-Time Cooperative Education 6: Electronics Engineering Technology**

#### **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 195

**EET 291 Full-Time Cooperative Education 1: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EET 292 Full-Time Cooperative Education 2: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 291

**EET 293 Full-Time Cooperative Education 3: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 292

**EET 294 Internship 1: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 131 and CIT 190

**EET 295 Internship 2: Electronics Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EET 294

## EMET

### Courses

**EMET 110 Computer Aided Design for Electro-Mechanical Systems****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of computer-aided drafting (CAD) and design for electro-mechanical systems, including techniques for generating accurate engineering drawings and 3D models.

Prerequisites: MAT 096 or MAT 124, or appropriate placement

**EMET 115 Residential Lighting****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of residential lighting. Topics include: safe use of tooling and ladders, removing and installing lamps, identifying commonly-used light fixtures and bulb types, and technician professional demeanor.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

**EMET 120 Residential Weatherization****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts related to the building "envelope," or the structure and shell of a house. Topics include: insulation, windows and doors, HVAC systems, energy use of lighting and appliances, and weatherization terminology.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

**EMET 125 Commercial Lighting****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of commercial lighting. Topics include: safe use of tooling, ladders, and lifts; removing and installing lamps for existing light fixtures (but not replacing the light fixture or ballast); auditing lamps; identifying light fixtures; removing fixture covers; and replacing lamps.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

**EMET 141 Programmable Logic Controllers****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of using programmable logic controllers (PLC). Topics include: PLC applications, ladder logic programming, processor selection and configuration, digital and analog input and output wiring, and human-machine interface (HMI) concepts.

Prerequisites: EET 131 and EMET 150 and MAT 125 or appropriate placement (minimum grade C for all)

**EMET 150 Introduction to Controls and Robotics****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on operation and use of robots in manufacturing applications. Topics include: programmable robotics, flow charting, logic controllers, motors, control language, motion, and quality assurance.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

**EMET 180 Process Instrumentation****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on process instrumentation theory and applications. Topics include: principles and practices of measurement and control of temperature, pressure, flow, level, and analytical quantities; and data acquisition for process instruments and controls.

Prerequisites: EMET 150 and EET 131 (minimum grade C for both)

**EMET 191 Part-Time Cooperative Education 1: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EMET 192 Part-Time Cooperative Education 2: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 191

**EMET 193 Part-Time Cooperative Education 3: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 192

**EMET 194 Part-Time Cooperative Education 4: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 193

**EMET 195 Part-Time Cooperative Education 5: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 194

**EMET 196 Part-Time Cooperative Education 6: Electro-Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 195

**EMET 210 Energy Efficiency and Audits****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts related to energy consumption. Topics include: conducting energy audits for residential, commercial, and industrial locations; conserving energy; reducing energy consumption; and applying renewable energies.

Prerequisites: None

**EMET 225 Solar and Renewable Energy****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on planning, installing, and maintaining solar and renewable energy devices. Topics include: photovoltaic electrical systems, solar thermal systems, fuel cell technology, and wind turbine technology.

Prerequisites: EMET 210 (minimum grade C)

**EMET 230 Fuel Cells and Wind Devices****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on planning, installing, and maintaining alternative energy sources. Topics include: converting chemical energy to electricity; fuel cell components, power efficiencies, and applications; electrolysis; and wind turbine components.

Prerequisites: EMET 210

**EMET 240 Programmable Logic Controllers, Motors, Motor Controls, and Kinematics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on programmable logic controllers, motors, and variable speed drives and mechanisms. Topics include: operating, troubleshooting, and controlling circuits; calculating speed, torque, horsepower, and efficiency; and machine kinematics.

Prerequisites: EET 132 (minimum grade C)

**EMET 241 Building Automation 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of building automation systems and commercial HVAC/R systems. Topics include: system components, building automation and control theory, psychometrics, air and water systems, boilers, chillers, lighting, thermostats, pumps, PLC, and motor controls.

Prerequisites: EET 132

Corequisites: EMET 240

Instructor Consent Required

**EMET 242 Building Automation 2****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of EMET 241. Topics include: control methods, HVAC scheduling, alarm categories and data logs, control of building HVAC mechanical systems, network fundamentals, OSI model, IP protocol, network signal transmission and protocols, and controller programming.

Prerequisites: EMET 241

**EMET 245 Laser 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the operational theory and safe use of lasers. Topics include: properties of laser light, elements of the laser, laser classifications, structure of the eye, and hazards associated with laser light.

Prerequisites: EMET 150 (minimum grade C) and MAT 124 (minimum grade C) or appropriate placement

**EMET 246 Laser 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of EMET 245, covering optical elements and types of industrial lasers used in photonics applications. Topics include: lenses, mirrors, prisms, laser modulators and Q-switches, optical power, energy measurements, and applying lasers for advanced manufacturing.

Prerequisites: EMET 245 (minimum grade C)

**EMET 252 Motors, Motor Controls, and Variable Drives****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on DC and AC motors and motor control circuits and devices including the Variable Frequency Drive (VFD). Topics include: brushed and brushless motors and generators, Pulse Width Modulation (PWM), variable speed drives, speed/torque/power characteristics, industrial control circuits, electrical safety, and troubleshooting.

Prerequisites: EET 132 and EMET 141 and EMET 150 (minimum grade C for all)

**EMET 270 Robotics and Servomechanisms****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on theory and applications of robotics and servomechanisms. Topics include: analyzing industrial robotics applications in automated manufacturing environments; programming and operating robots; transducers; proportional, proportional-integral, and proportional-integral-derivative positional control systems; and closed-loop controls.

Prerequisites: EET 132 (minimum grade C)

**EMET 275 Electric Drive Mechanisms****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on electric drive systems used in electric vehicles and stationary power systems. Topics include: power and energy measurement, energy storage, battery monitoring, motor drives, control electronics and instrumentation, power transmission, and electrical safety devices.

Prerequisites: EMET 180 and EMET 252 (minimum grade C for both)

**EMET 291 Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EMET 292 Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 291

**EMET 293 Full-Time Cooperative Education 3: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 292

**EMET 294 Internship 1: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 140

**EMET 295 Internship 2: Electro-Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 294

# EMS

## Courses

**EMS 100 CPR and First Aid for the Health Care Professional**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on life support and first aid skills. Topics include: one- and two-rescuer CPR and AED for adults, children, and infants; barrier devices; and resuscitator bags. Students who pass the course receive an American Heart Association CPR card for the Health Care Professional and First Aid card.

Prerequisites: None

**EMS 103 Emergency Medical Responder Theory and Practice**  
**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on how to provide immediate care for life-threatening injuries and illnesses, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the NREMT certification exam.

Prerequisites: ENG 085 or appropriate placement

**EMS 105 Emergency Medical Responder Refresher**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that provides Certified Emergency Medical Responders with a review of skills for providing immediate care for life-threatening injuries and illnesses. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 103 or current EMR certification

**EMS 110 Emergency Medical Technician Theory and Practice**  
**7 Credits. 5 Lecture Hours. 4 Lab Hours.**

A course on assessment, care, and transportation of the ill or injured patient, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the National Registry of Emergency Medical Technicians (NREMT) certification exam.

Prerequisites: ENG 085 or appropriate placement

**EMS 115 Emergency Medical Technician Refresher**  
**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that provides Certified Emergency Medical Technicians with a review of skills for assessment, care, and transportation of the ill or injured patient. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 110 or current EMT certification

**EMS 120 Paramedic Anatomy and Physiology**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the structure and function of the human body. Topics include: medical terminology, cells, tissues, and human organ systems.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**EMS 180 Emergency Medical Technician Field Experience Practicum****2 Credits. 0 Lecture Hour. 8 Lab Hours.**

Students who are certified EMTs gain unpaid work experience with a fire or emergency medical services department prior to entering the EMT-Paramedic Certificate program.

Prerequisites: EMS 110 and Ohio EMT certification

**EMS 200 Advanced Cardiac Life Support Provider Theory and Practice****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on knowledge and skills for evaluating and managing the first 10 minutes of an episode of ventricular fibrillation/ventricular tachycardia experienced by an adult. Students must have completed or be enrolled in technical courses for Paramedic, Nursing, or Respiratory Technology.

Prerequisites: Instructor consent  
Instructor Consent Required

**EMS 205 Pediatric Advanced Life Support Theory and Practice****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on knowledge and skills for providing advanced life support care for an infant or child during the first 10 minutes of resuscitation efforts. Students must have completed or be enrolled in technical courses for Paramedic, Nursing or Respiratory Technology.

Prerequisites: Instructor consent  
Instructor Consent Required

**EMS 211 Paramedic 1****7 Credits. 7 Lecture Hours. 0 Lab Hour.**

A course on knowledge and skills needed by an Emergency Medical Technician to provide advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic as outlined in the National Emergency Medical Services Educational Standards.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)  
Corequisites: EMS 221 and EMS 231  
Instructor Consent Required

**EMS 212 Paramedic 2****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A continuation of EMS 211, with ongoing study of the knowledge and skills needed for advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)  
Corequisites: EMS 222 and EMS 232  
Instructor Consent Required

**EMS 213 Paramedic 3****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A continuation of EMS 212, with ongoing study of the knowledge and skills needed for advanced life support care of the ill or injured patient. The curriculum follows guidelines approved by the Ohio Department of Public Safety, Division of EMS, and meets terminal objectives for the entry-level paramedic.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)  
Corequisites: EMS 223 and EMS 233

**EMS 215 Paramedic Refresher****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course that provides Certified Paramedics with a review of skills for advanced life support care of the ill or injured patient. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.

Prerequisites: EMS 213 or current Paramedic certification  
Instructor Consent Required

**EMS 220 Emergency Medical Services Instructor Theory and Practice****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on techniques for teaching adult learners the knowledge and skills required for the Emergency Medical Services field, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students participate in supervised teaching experiences.

Prerequisites: Instructor consent  
Instructor Consent Required

**EMS 221 Paramedic 1 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 211, covering skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)  
Corequisites: EMS 211 and EMS 231

**EMS 222 Paramedic 2 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 212, covering ongoing acquisition of skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)  
Corequisites: EMS 212 and EMS 232

**EMS 223 Paramedic 3 Lab****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A laboratory course that accompanies EMS 213, covering ongoing acquisition of skills and interventions needed to properly assess and manage the ill or injured patient.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)  
Corequisites: EMS 213 and EMS 233

**EMS 231 Paramedic 1 Practicum****2 Credits. 1 Lecture Hour. 9 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 110 and EMS 120 (minimum grade C for both)  
Corequisites: EMS 211 and EMS 221

**EMS 232 Paramedic 2 Practicum****3 Credits. 1 Lecture Hour. 11 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical and/or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 211 and EMS 221 and EMS 231 (minimum grade C for all)  
Corequisites: EMS 212 and EMS 222

**EMS 233 Paramedic 3 Practicum****3 Credits. 1 Lecture Hour. 11 Lab Hours.**

Students refine their patient assessment and management skills under the direct supervision of a clinical and/or internship preceptor, in the hospital clinical setting and field internship setting. Students must complete designated hours and skills.

Prerequisites: EMS 212 and EMS 222 and EMS 232 (minimum grade C for all)  
Corequisites: EMS 213 and EMS 223

# ENG

## Courses

### **ENG 080 Fundamentals of College Reading and Writing**

**5 Credits. 5 Lecture Hours. 0 Lab Hour.**

A course that integrates reading and paragraph-writing skills with strategies needed to succeed in other college courses. Students must earn a minimum grade of C in this course to continue to Intensive English Composition 1 (ENG 101A).

Prerequisites: Appropriate placement

### **ENG 085 Applications of College Reading and Writing**

**5 Credits. 5 Lecture Hours. 0 Lab Hour.**

A course that integrates critical reading and essay-writing skills with strategies needed to succeed in other college courses. Students must earn a minimum grade of C in this course to continue to English Composition 1 (ENG 101).

Prerequisites: ENG 080 or appropriate placement

### **ENG 100 English Principles: Grammar and Structure**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A comprehensive review of writing mechanics for professional communication. Topics include: grammar, punctuation, word usage, style, proofreading, and techniques for writing and revising effective sentences.

Prerequisites: None

### **ENG 101 English Composition 1**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to college writing focusing on understanding the writing process. Topics include: identifying audiences; developing a strong thesis; providing sufficient evidence for claims; and writing essays with grammatical, mechanical, and stylistic correctness.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement  
Ohio Transfer Module Approved

### **ENG 101A Intensive English Composition 1**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A lab-supported introduction to college writing with additional practice for understanding the reading and writing process. Topics include: identifying audiences; developing a strong thesis; providing sufficient evidence for claims; and writing essays with grammatical, mechanical, and stylistic correctness. Lab portion of course is conducted in a computer-aided classroom.

Prerequisites: ENG 080 (minimum grade C) or appropriate placement  
Ohio Transfer Module Approved

### **ENG 102 English Composition 2: Contemporary Issues**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ENG 101. Topics include: critical reasoning; argumentation; the research process and the research paper; and reading, synthesizing, and responding critically to policy-driven research.

Prerequisites: ENG 101

Ohio Transfer Module Approved

### **ENG 103 English Composition 2: Writing about Literature**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ENG 101. Topics include: critical reading; argumentation; the research process and the research paper; and reading, synthesizing, and responding critically to literature.

Prerequisites: ENG 101

Ohio Transfer Module Approved

### **ENG 104 English Composition 2: Technical Communication**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ENG 101. Topics include: audience analysis; planning, preparing, and revising technical and professional documents used for reference, persuasion, or instruction; using and reporting on research; and integrating visuals with text.

Prerequisites: ENG 101, and 8 credit hours in technical courses

Ohio Transfer Module Approved

### **ENG 105 English Composition 2: Business Communication**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ENG 101. Topics include: planning, preparing, and revising business documents such as formal and informal business letters, emails, proposals, and reports; and using and reporting on research.

Prerequisites: ENG 101

Ohio Transfer Module Approved

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### **ENG 131 Creative Writing: Poetry**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A workshop-oriented poetry writing course. Topics include: the invention process, revision, poetic form, and critical response to works of literature and student work.

Prerequisites: 6 Credit Hours of English Composition

### **ENG 132 Creative Writing: Fiction**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A workshop-oriented fiction writing course. Topics include: the invention process, revision, form of fiction, and critical response to works of literature and student work.

Prerequisites: 6 credit hours of English Composition

### **ENG 134 Creative Writing: Writing for Children**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A workshop-oriented course on writing picture books, chapter books, and middle grade novels. Topics include: the invention process, revision, form of children's literature, and critical response to works of literature and student work.

Prerequisites: 6 credit hours of English Composition

### **ENG 205 Scriptwriting: Short**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing scripts for short form electronic media messages such as commercials and public service announcements. Topics include: analyzing audiences and products; applying basic concepts of marketing; conducting research; preparing copy platforms, scripts, and storyboards; and persuasively presenting concepts.

Prerequisites: 6 credits of English Composition (minimum grade C)

### **ENG 210 Scriptwriting: Long**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing scripts for long form electronic media messages such as instructional and promotional video and documentaries. Topics include: analyzing audiences and products; conducting research; preparing documentation, scripts, and storyboards; and persuasively presenting concepts.

Prerequisites: 6 credits of English Composition (minimum grade C)

**ENG 215 Copywriting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing promotional messages for print and online distribution. Topics include: analyzing audiences and products, conducting research, developing concepts, preparing copy platforms, selecting writing styles and formats, and designing materials.

Prerequisites: 6 credits of English Composition (minimum grade C)

**ENG 230 Writing Online Content****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing content for websites and web-supported publishing such as blogs and e-newsletters. Topics include: analyzing audiences and goals, choosing writing styles, creating and revising content, and applying best practices for online and digital document design.

Prerequisites: 6 credits of English Composition (minimum grade C)

## ENGR

### Courses

**ENGR 111 Introduction to Engineering 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that introduces students to engineering disciplines, fundamentals, and problem-solving methods by completing introductory design projects. Topics include: developing skills in design, oral, and graphical communication; teamwork; using engineering tools such as Excel, CAD, and Rapid Prototyping; and understanding global issues related to engineering practice.

Prerequisites: MAT 096 and ENG 080, or appropriate placements

**ENGR 112 Introduction to Engineering 2****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of ENGR 111. Topics include: understanding multidisciplinary and societal impact of engineering design solutions; using creativity and innovation within engineering problem-solving methodologies; and building skills in communication and use of engineering tools including Excel, Python, Matlab, CAD, and Rapid Prototyping.

Prerequisites: ENGR 111

**ENGR 200 Engineering Statics (Calculus Based)****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on engineering fundamentals related to forces acting on rigid bodies in equilibrium. Topics include: geometric properties of structural shapes including center of gravity, centroids, moment of inertia, and radii of gyration; static friction forces; and 2-dimensional and 3-dimensional analysis of beams, trusses, and space frames.

Prerequisites: MAT 126 or MAT 152 or appropriate placement

Ohio Transfer Assurance Guide Approved

## ESET

### Courses

**ESET 220 Microprocessor Systems****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on designing, programming, and troubleshooting microprocessor systems and applications. Topics include: assembly language programming, interrupt and polled input/output (I/O), interrupt service routines, parallel ports, timer functions, serial interfaces, analog-to-digital (A/D) converters, and external hardware interfaces.

Prerequisites: EET 122

**ESET 251 Electronics****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on semiconductor and amplifier theory and application. Topics include: diode circuits and basic power supplies; bipolar transistor, field-effect transistor (FET), thyristor, and operational amplifier theory; inverters; circuit construction; and troubleshooting.

Prerequisites: EET 132

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**ESET 290 Electronic Systems Engineering Technology Capstone Project****4 Credits. 2 Lecture Hours. 4 Lab Hours.**

Students design a system using analog and digital electronics concepts, and prepare and deliver a professional presentation of their completed project. Topics include: design theory, feasibility study, engineering economics, and presentation skills.

Prerequisites: EET 122 and ESET 251

## ESL

### Courses

**ESL 051 English as a Second Language Level 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course that integrates English skills including reading, writing, grammar, speaking, and listening comprehension. Topics include: American culture, cross-cultural communication, and the immigrant experience.

Prerequisites: None

**ESL 052 English as a Second Language Level 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of ESL 051. Topics include: American culture, cross-cultural communication, the immigrant experience, and current events.

Prerequisites: ESL 051 (minimum grade C) or appropriate placement

**ESL 055 English as a Second Language: Grammar****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for non-native speakers on English grammar skills. Topics include: verb tenses, count and non-count nouns, active and passive voice, and grammatical articles.

Prerequisites: None

**ESL 060 English as a Second Language: Pronunciation****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for non-native speakers on pronunciation of standard American English. Topics include: stress, rhythm, intonation, vocabulary, idioms, cross-cultural communication, and coping strategies.

Prerequisites: None



## ET

### Courses

#### **ET 100 Engineering and Science Technology Career Exploration Seminar**

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using research and personal reflection to develop a strong foundation for selecting an academic program/major and planning a career related to Engineering and Science Technologies. Topics include: analyzing interests, abilities, and values; reviewing academic and personal requirements for related programs/majors; and examining career outcomes including salary, job availability, advancement opportunities, and other factors.

Prerequisites: None

## EVS

### Courses

#### **EVS 110 Environmental Science: Conservation and Cleanup**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on environmental science as it affects human activity and the environment. Topics include: drinking water and wastewater treatment, air pollution, energy, conservation, solid and hazardous waste management, and risk assessment. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Module Approved

#### **EVS 120 Environmental Geology**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the relationship of applied geology to the human environment. Topics include: plate tectonics, soils, groundwater and surface water, natural disasters and glacial geology, and resource protection from contamination. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Module Approved

#### **EVS 130 Environmental Science: Ecology and Ecosystems**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on environmental science and ecology. Topics include: types of ecosystems and how they function, elementary soil science, biodiversity, and population growth and sustainability. Students provide transportation to off-campus field trips.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Module Approved

## EVT

### Courses

#### **EVT 105 Environmental Sampling**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on sampling requirements and techniques. Topics include: sampling groundwater, surface water, drums, sediments, soil, and air; site assessment; and field testing. Students provide transportation to off-campus field trips. Students who complete the course successfully earn a USEPA certificate.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

#### **EVT 115 OSHA 40-Hour Course**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the OSHA-specific requirements under 29 CFR 1910.120 for 40-Hour Hazardous Waste Site Training. Topics include: avoiding injury on a hazardous waste site, and basic concepts for health and safety programs. Students who complete the course successfully earn a certificate.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

Instructor Consent Required

#### **EVT 125 Restoration Ecology: Sustainable Sites**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on environmental design principles and sustainable development. Topics include: federal, state, and local issues and standards; and managing introduced, exotic, and invasive species. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

#### **EVT 135 Restoration Ecology: Rain Gardens**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on rain garden design and construction techniques that harvest rain water from local watersheds. Topics include: baseline analysis, site preparation, plant selection, and study of components in various ecoregions. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

#### **EVT 140 Environmental Regulations and Permits**

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on federal, state, and local environmental laws with emphasis on related computer concepts and applications. Topics include: TSCA, FIFRA, OSHA, CAA, CWA, SDWA, CERCLA, and RCRA.

Prerequisites: EVS 110 and (ENG 101 or ENQ REQC)

#### **EVT 145 Restoration Ecology: Native Vegetation**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on native trees, shrubs, and vines that have commercial value for sustainable use. Topics include: proven landscape species, their uses in the tri-state area, and invasive species of various ecoregions. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110 or EVS 130

#### **EVT 150 Environmental Chemistry**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on organic chemistry and chemical principles of environmental systems. Topics include: nomenclature, geochemistry, atmospheric chemistry, organic and inorganic air pollutants, toxicological chemistry, resources, energy, and analysis of environmental samples using chemical instrumentation.

Prerequisites: CHE 110 or CHE 121

#### **EVT 155 Site Mapping and GIS**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on mapping techniques for the environmental field. Topics include: map concepts, coordinate systems, elevation contours, and terrain modeling. Course activities include manual drafting, basic principles of surveying, and an introduction to CAD and GIS software.

Prerequisites: MAT 125 or MAT 151 or appropriate placement

**EVT 158 Fundamentals of Industrial Hygiene****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on techniques for recognizing, evaluating, and controlling health and safety hazards in the workplace. Topics include: radiation safety, noise, solvents, biological hazards, and video display terminal (VDT) hazards.

Prerequisites: EVS 110

**EVT 160 Solid and Hazardous Waste Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for solid and hazardous waste disposal facilities. Topics include: waste minimization, composting, recycling, and landfilling; principles and practices for storage, transport, treatment, and disposal of hazardous wastes; regulations and permits; and emerging technologies. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110, and CHE 110 or CHE 121

**EVT 165 Calculations for Water Operators****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mathematical applications for water treatment plant processes including water sources and storage, coagulation and flocculation, sedimentation, filtration, chlorination, fluoridation, and softening. Topics include applied volume, flow, and velocity; chemical dosage; loading rates; detention and retention; and pumping.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 166 Calculations for Wastewater Operators****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on calculations for wastewater treatment applications. Topics include: volumes, flow, and velocity; conversions; pumping and loading rates; F/M ratio; sludge age; MCRT; and efficiency.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 168 Radiation Safety****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on radiation safety and protection. Topics include: the interaction of radiation with matter, biological effects, types of radioactivity, dosimetry, shielding calculations, and radiation measurements.

Prerequisites: EVS 110

**EVT 170 Water and Wastewater Treatment and Analysis****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on scientific and engineering principles for water quality control. Topics include: environmental microbiology; bioremediation; microbes as indicators of pollution; and physical, chemical, and biological analysis. Students provide transportation to off-campus field trips.

Prerequisites: EVS 110, and CHE 110 or CHE 121

**EVT 171 Environmental Mountain Ecology 1****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on principles of ecology and pollutant dispersion as they pertain to mountain ecosystems, and the environmental impact of human activities on mountain ecosystems.

Prerequisites: EVT 105 and EVS 120

**EVT 172 Environmental Mountain Ecology 2****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A continuation of EVT 171. Students participate in field experience that includes a trip to the mountainous regions of the western United States. Students pay for travel-related expenses.

Prerequisites: EVT 171

Instructor Consent Required

**EVT 175 Watershed Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing watershed action plans. Topics include: water quality monitoring, stream bank stabilization, flood management strategies, habitat restoration, and control of combined and sanitary sewer overflow. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105, and CHE 110 or CHE 121

**EVT 180 Environmental Statistics****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on statistical methods used in environmental pollution monitoring. Topics include: computer concepts and applications emphasizing environmental data.

Prerequisites: EVS 110 and MAT 125 or MAT 151 or appropriate placement

**EVT 185 Supervisory Management in Environmental Fields****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on concepts and practices of management as they apply to the environmental field. Topics include: problem solving, communication skills, delegation and motivation, unions, and manager-employee relationships.

Prerequisites: EVS 110 and ( ENG 101 or ENG REQC)

**EVT 187 Materials Transportation Safety and Security****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on safety and security during the transport of hazardous substances. Topics include: Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, Transportation Security Administration, aviation security, and shipping protocols. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105

**EVT 191 Part-Time Cooperative Education 1: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**EVT 192 Part-Time Cooperative Education 2: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 191

**EVT 193 Part-Time Cooperative Education 3: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 192

**EVT 194 Part-Time Cooperative Education 4: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 193

**EVT 195 Part-Time Cooperative Education 5: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 194

**EVT 196 Part-Time Cooperative Education 6: Environmental Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EVT 195

**EVT 210 Industrial Waste Treatment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the responsibilities of the industrial wastewater treatment plant operator. Topics include: the activated sludge process, physical-chemical treatment, instrumentation, industrial waste monitoring, waste treatment processes, and maintenance.

Prerequisites: EVT 170

**EVT 215 Utilities Safety and Security****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the safety and security of the utility systems in the United States in the event of natural disasters or terrorist or wartime attack. Topics include: protection of drinking water systems, wastewater treatment systems, and energy supplies.

Prerequisites: EVT 170

**EVT 220 Air Pollution Control****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on monitoring permitting and control of air releases. Topics include: air quality management, health and environmental effects, indoor air pollution, pollen and mold counts, control and sampling equipment, stack testing, and data analysis. Students provide transportation to off-campus field trips.

Prerequisites: EVT 150

**EVT 225 Environmental Mapping****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mapping and resource inventory for the environmental field. Topics include: map projections, world coordinates, watershed delineation, GIS data analysis and queries, and remote sensing. Students use conventional surveying and GPS equipment for data collection, and computer mapping CAD and GIS software for data analysis.

Prerequisites: EVT 155

**EVT 230 Treatment Technologies****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and applications of mainstream treatment technologies used to prevent, monitor, and control pollution from industries and government facilities. Topics include: physical, chemical, thermal, and biological treatment methods. Students provide transportation to off-campus field trips.

Prerequisites: EVT 170

**EVT 235 Stormwater Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the infrastructure of stormwater control. Topics include: surface water hydrology, historical development of drainage control, FEMA and local flood design criteria and control methods, storm sewers, open channel, culvert conveyance, detention systems and calculations, and post-construction BMPs.

Prerequisites: EVT 225 and EVT 240

**EVT 237 Environmental Impact of Weapons of Mass Destruction****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on understanding weapons of mass destruction and recovery following an attack. Topics include: chemical and biological warfare agents; radiation dispersal devices; and detection, decontamination, and disposal of these agents. Students provide transportation to off-campus field trips.

Prerequisites: EVT 105 and EVT 170

**EVT 240 Fluid Mechanics****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on engineering properties of fluids including kinematics and dynamics, fluid flow, buoyancy, and stability. Topics include: Bernoulli's equation and the energy equation; Reynold's number; energy losses; and series, parallel, and open channel flow.

Prerequisites: MAT 126 or MAT 152 or appropriate placement

**EVT 245 Operation of Water Treatment Plants****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on efficient operation of water treatment plants that helps students prepare for certification exams. Topics include: proper installation, inspection, operation, maintenance, repair, and management of water treatment plants; corrosion control; control of trihalomethanes; and water sample analysis.

Prerequisites: EVT 165

**EVT 246 Operation of Wastewater Treatment Plants****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on efficient operation of wastewater treatment plants that helps students prepare for certification exams. Topics include: start-up, daily operations, interpretation of lab results, and possible approaches to solving operational problems.

Prerequisites: EVT 166

**EVT 247 Advanced Sampling and Analysis****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on sampling equipment and methods used to evaluate hazards after natural disasters. Topics include: equipment and instruments used to detect biological and chemical warfare agents. Students provide transportation to off-campus field trips.  
Prerequisites: EVT 105 and EVT 170

**EVT 250 Water Collection and Distribution Systems****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on operating and controlling water delivery and wastewater collection systems. Topics include: gravity and pumped lines; storage and holding tanks; pumps; system monitoring, repair, and rehabilitation; water system depressurization; backflow prevention; metering; sewer overflows; and gaseous buildup.  
Prerequisites: EVT 240

**EVT 255 Stormwater Control Technologies****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on best practices in stormwater management including design, installation, construction, and maintenance. Topics include: porous pavements, subsurface infiltration, bioretention basins, wetlands, soil bioengineering, and cost effectiveness of methods. Students provide transportation to off-campus field trips.  
Prerequisites: EVT 225

**EVT 257 Environmental Risk Assessment****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course that utilizes risk assessment methods to evaluate and manage danger in the event of chemical, biological, or radiological exposure. Topics include: operational risk management approaches, and understanding toxicological values. Students provide transportation to off-campus field trips.  
Prerequisites: EVT 160 and EVT 220

**EVT 291 Full-Time Cooperative Education 1: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: None

**EVT 292 Full-Time Cooperative Education 2: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: EVT 291

**EVT 293 Full-Time Cooperative Education 3: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: EVT 292

**EVT 294 Internship 1: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: CIT 190

**EVT 295 Internship 2: Environmental Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: EVT 294

## EXS

### Courses

**EXS 118 Yoga Teacher Training 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for National Yoga Alliance Certification. Topics include: building a personal practice, instructional concepts, safety guidelines, modifications for special populations, physical anatomy, and yoga techniques and practices.  
Prerequisites: Admitted to the Yoga Teacher Training Certificate program  
Corequisites: EXS 184

**EXS 119 Yoga Teacher Training 2****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of EXS 118 that prepares students for National Yoga Alliance Certification. Topics include: guidelines, modifications for special populations, anatomy, and yoga techniques and practices.  
Prerequisites: EXS 118 and EXS 184  
Corequisites: EXS 185

**EXS 122 Group Fitness Instructor****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course that prepares students for the American Council on Exercise National Group Fitness Instructor Examination. Topics include: communication skills, instructional concepts, effective exercise design, choreography, safety guidelines, and modifications for special populations.  
Prerequisites: Admitted to the Group Fitness Instructor Certificate program

**EXS 130 Foundations of Health and Wellness Programs****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on developing fitness and wellness programs for individuals and groups, emphasizing disease prevention and health promotion. Topics include: fitness testing for each fitness component, behavior modification, nutrition, stress management, addictions, sexually transmitted disease, and chronic disease.  
Prerequisites: ENG 085 and MAT 093 (minimum grade C for both), or appropriate placements

**EXS 151 Principles of Exercise Assessment and Prescription**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on techniques used in the personal training fitness field. Topics include: the body's response to exercise, screening and consultation guidelines, dietary principles, and communication and documentation.

Prerequisites: ENG 085 and MAT 093 (minimum grade C for both) or appropriate placements, and admitted to the Personal Fitness Trainer Certificate program

Corequisites: EXS 130

Instructor Consent Required

**EXS 152 Exercise Programming**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of EXS151 that prepares students for the American Council on Exercise National Certified Personal Trainer Exam. Topics include: applying exercise principles, using therapeutic exercise, working with special populations, understanding legal issues, and analyzing and evaluating fitness techniques.

Prerequisites: EXS 151 (minimum grade C)

Corequisites: EXS 182, EXS 156

**EXS 156 Establishing a Personal Training Business**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategies for promoting personal training services and establishing a client base. Topics include: using resources to build a client base, applying sales processes, networking, analyzing needs, and handling objections.

Prerequisites: EXS 151 (minimum grade C)

Corequisites: EXS 152, EXS 182

**EXS 164 Health and Fitness Across the Life Span 1**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the impact of exercise on quality of life for older adults and those with chronic health conditions/diseases. Topics include: American College of Sports Medicine guidelines for testing and exercise prescription, and the effects of the aging process and chronic conditions on exercise performance and fitness program development. Prerequisites: EXS 130 (minimum grade C), and admitted to the Health and Fitness Special Populations Certificate program

**EXS 168 Health and Fitness Across the Life Span 2**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the national guidelines for youth fitness/physical activity and exercise programming throughout a woman's life stages. Topics include: program design; childhood obesity; the role of school, family, and community in youth fitness; cultural and gender differences affecting fitness; and women's life stages (adolescence, prenatal, menopause) and conditions that affect exercise.

Prerequisites: EXS 130 (minimum grade C)

Instructor Consent Required

**EXS 182 Personal Fitness Trainer Practicum**

**2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students apply personal fitness training knowledge and skills in a health and fitness setting by observing and assisting with classes taught by a professional personal fitness trainer.

Prerequisites: EXS 151 (minimum grade C) and EMS 100

Corequisites: EXS 152

**EXS 184 Yoga Internship**

**1 Credit. 0 Lecture Hour. 4 Lab Hours.**

Students apply yoga knowledge and skills in a practice setting by observing and assisting in classes taught by a certified Yoga Instructor. Prerequisites: EXS 119 and admitted to the Yoga Teacher Training Certificate program

**EXS 185 Yoga Internship 2**

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

Students apply yoga knowledge and skills in a practice setting by observing and assisting in classes taught by a certified Yoga Instructor. Prerequisites: EXS 118 and EXS 184

Corequisites: EXS 119

**EXS 191 Part-Time Cooperative Education: Exercise Science**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EXS 250 and EMS 100 (minimum grade C for both), and instructor consent

Corequisites: EXS 260

Instructor Consent Required

**EXS 250 Exercise Physiology**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the human body's response and adaptations to exercise and physical training. Topics include: the influence of exercise on body systems, optimal physiological adaptations for improving fitness and performance, and testing and programming related to exercise and fitness.

Prerequisites: BIO 151 and ENG 101 and EXS 130 and MAT 105 (minimum grade C for all), and instructor consent

Instructor Consent Required

**EXS 251 Corrective Exercise Specialist**

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course that prepares experienced fitness trainers/instructors to successfully prevent injuries and recondition clients of all levels, and to take the National Academy of Sports Medicine Corrective Exercise Specialist exam. Topics include: fundamentals of corrective exercise, and developing and implementing integrated strategies to improve common movement impairments.

Prerequisites: Currently enrolled in EXS 152, or earned Cincinnati State certificate in Personal Fitness Trainer or Group Fitness Instructor, or have a comparable current national accreditation or certification

Instructor Consent Required

**EXS 255 Anatomical Kinesiology**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of human anatomy and motion as they relate to physical activity and skill performance. Topics include: the function of the skeletal, muscle, and nervous systems in generation and maintenance of human movement.

Prerequisites: EXS 130 (minimum grade C)

**EXS 260 Exercise Science Program Design****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills for identifying, assessing, designing, promoting, implementing, and evaluating programs for health and fitness in various settings. Topics include: needs assessment, funding, marketing, and using tools for evaluating program outcomes. Students in the course plan and deliver fitness classes.

Prerequisites: EXS 250 (minimum grade C)

Corequisites: EXS 294 or EXS 191

**EXS 294 Internship: Exercise Science****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in an unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EXS 250 and EMS 100 (minimum grade C for both), and instructor consent

Corequisites: EXS 260

Instructor Consent Required

## FIN

### Courses

**FIN 100 Personal Finance****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on coordinated and realistic personal financial planning. Topics include: budgeting and tax planning, managing liquidity, personal loans, purchasing cars and homes, insurance and investing principles, and retirement and estate planning.

Prerequisites: None

**FIN 120 Risk and Insurance****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of risk management and insurance for enterprises and individuals. Topics include: fundamentals of life, health, property, and liability insurance; and enterprise risk management for businesses.

Prerequisites: None

**FIN 130 Principles of Banking****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental principles and practices of banking and credit in the United States. Topics include: financial services operations including human resources, marketing, and ethics; money and interest; negotiable instruments; mortgages; commercial lending; security; and the role of banking in today's economy.

Prerequisites: None

**FIN 150 Business Finance****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of financing business firms. Topics include: financial statement analysis, time value of money, management of cash flow, risk and return, and short and long-term sources of financing.

Prerequisites: ACC 101

**FIN 175 Retirement and Employee Benefit Planning****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developing retirement plans and employee benefit plans. Topics include: legislation that affects plan design; tax advantages and disadvantages of various retirement plans; and Social Security, Medicare, and employer-sponsored health and welfare plans. This course is offered only through online learning.

Prerequisites: FIN 100 or ACC 101

**FIN 191 Part-Time Cooperative Education 1: Finance****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**FIN 192 Part-Time Cooperative Education 2: Finance****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 191

**FIN 193 Part-Time Cooperative Education 3: Finance****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 192

**FIN 194 Part-Time Cooperative Education 4: Finance****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 193

**FIN 195 Part-Time Cooperative Education 5: Finance****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 194

**FIN 196 Part-Time Cooperative Education 6: Finance****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 195

**FIN 200 Investments****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on securities and the markets in which they are traded, and sources of financial information. Topics include: features and characteristics of financial instruments such as money market instruments, stocks, bonds, international securities, options, and futures contracts. This course is offered only through online learning.  
Prerequisites: FIN 100 or ACC 101

**FIN 291 Full-Time Cooperative Education 1: Finance****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**FIN 292 Full-Time Cooperative Education 2: Finance****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 291

**FIN 293 Full-Time Cooperative Education 3: Finance****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FIN 292

**FRN****Courses****FRN 101 Elementary French 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on French language and culture that provides the foundation for understanding, speaking, reading, and writing French.

Prerequisites: None

**FRN 102 Elementary French 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of FRN 101. Topics include: developing skills in understanding, speaking, reading, and writing French.

Prerequisites: FRN 101

**FRN 201 Intermediate French 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of FRN 102. Topics include: developing fluency in French grammar and syntax through reading short literary pieces, composition, and conversation.

Prerequisites: FRN 102

**FRN 202 Intermediate French 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of FRN 201. Topics include: developing additional skills and fluency in French through reading short literary pieces, composition, and conversation.

Prerequisites: FRN 201

**FST****Courses****FST 101 Fire Cadet Fundamentals****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamental concepts and skills that apply to the fire cadet. Topics include: safety procedures and equipment, self-discipline, fire ground principles, emergency communication and systems, and evolving technologies and trends in firefighting.

Prerequisites: Instructor Consent

Instructor Consent Required

**FST 103 Evolution of the Fire Service****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the growth of the fire service from its creation through the 21st century. Topics include: changes in suppression methods, building codes, and rescue techniques; administrative philosophies; and personnel behaviors.

Prerequisites: None

**FST 105 Firefighter Physical Preparedness****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on preparing individuals for the rigors of firefighting, including balanced physical conditioning that incorporates all basic factors of fitness.

Prerequisites: Instructor Consent

Instructor Consent Required

**FST 120 Fire Behavior and Combustion****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on theories and fundamentals of how and why fires start and spread, and how fires are controlled. Topics include: the chemistry of fire, combustion and heat transfer, stages of fire growth, toxic gases and smoke, and extinguishing agents.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

Ohio Transfer Assurance Guide Approved

**FST 123 Principles of Emergency Services****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fire protection as an industry. Topics include: philosophy and history of fire services, fire departments as part of local government, protection systems, regulations and laws, and introductory fire ground strategy and tactics.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

Ohio Transfer Assurance Guide Approved

**FST 126 Fire Protection Systems****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on design and operation of fire alarm systems. Topics include: water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection, and portable fire extinguishers.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

Ohio Transfer Assurance Guide Approved

**FST 129 Fire Prevention****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts of fire prevention. Topics include: history, philosophy, organization, and operation of a fire prevention bureau; use and application of codes and standards; plan review; fire inspections; fire and life safety education; and fire investigation.

Prerequisites: ENG 085 and MAT 093, or appropriate placements  
Ohio Transfer Assurance Guide Approved

**FST 131 Firefighter Professional 1****6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course covering NFPA 1001 Firefighter 1 and 2 objectives. Topics include: ladders, personal protection clothing, self-contained breathing apparatus (SCBA), fire extinguishers, search and rescue, ropes and knots, and hoses and nozzles. Students must successfully complete FST 131 and FST 132 and earn a passing score on the state firefighter exam to obtain Ohio Firefighter II certification.

Prerequisites: ENG 085 or appropriate placement, and FST 101 and FST 105, and instructor consent  
Instructor Consent Required

**FST 132 Firefighter Professional 2****5 Credits. 3 Lecture Hours. 6 Lab Hours.**

A continuation of FST 131, covering NFPA 1001 Firefighter 1 and 2 objectives. Topics include: fire streams and foam, auto extrication, fire control, fire protection systems, and pre-incident surveys. Students must earn a passing score on the state firefighter exam to obtain Ohio Firefighter II certification. PROBOARD accreditation is available for interested students.

Prerequisites: FST 131 and instructor consent  
Instructor Consent Required

**FST 136 Emergency Vehicle Operator****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on safe driving practices while responding in emergency vehicles. Topics include: techniques for safe operation, post-collision analysis, and unsafe practices during emergency response. Students must have a valid driver's license.

Prerequisites: Instructor consent, and ENG 080 and MAT 093, or appropriate placements  
Instructor Consent Required

**FST 161 Fire Officer 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on preparing for the role of company officer, using NFPA 1021 Fire Officers Professional Qualifications Level 1 objectives. Topics include: human resource management, community and government relations, inspections, investigations, emergency service delivery, and safety. This course is delivered in an online format.

Prerequisites: FST 142

**FST 162 Fire Officer 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of FST 161, using standards defined for NFPA 1021 Fire Officers Professional Qualifications Level 2. This course is delivered in an online format.

Prerequisites: FST 161

**FST 223 Principles of Fire and Emergency Services Safety and Survival****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the history and basic principles of the national firefighter life safety initiatives, focusing on the need for cultural change throughout the emergency services.

Prerequisites: FST 142 or FST 145  
Ohio Transfer Assurance Guide Approved

**FST 226 Building Construction for Fire Protection****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on building construction in relation to firefighting and life safety. Topics include: elements of construction and design, building inspection factors, pre-planning fire operations, and safe operations during emergencies.

Prerequisites: FST 141  
Ohio Transfer Assurance Guide Approved

**FST 228 Legal Aspects of the Emergency Services****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on legal issues related to emergency services. Topics include: the American legal system; recent court decisions, events, and statutes; Americans with Disabilities Act; Family Medical Leave Act; Fair Labor Standards Act; and HIPAA.

Prerequisites: FST 100

**FST 258 Rapid Assistance and Self-Rescue Operations****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on saving your own life or saving lives of other firefighters. Topics include: MAYDAY, fire ground safety, communications, self awareness, rapid entry team preparedness, and survival techniques.

Prerequisites: FST 132

**FST 265 Fire Service Instructor****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for teaching adult learners knowledge and skills required for the Fire Services field, using NFPA 1041 Instructor 1 and 2 objectives. Topics include: domains of learning, learning outcomes and objectives, classroom preparedness, student safety, and legal obligations. Students must have five years experience as a firefighter.

Prerequisites: FST 142 and Instructor consent  
Instructor Consent Required

**FST 268 Fire Safety Inspector****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fire safety inspection procedures and responsibilities, using NFPA 1031 objectives. Students who are members of an Ohio Fire Department may take the state exam for Fire Safety Inspector at the end of the course.

Prerequisites: FST 142

**FST 294 Internship 1: Fire Service Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in an unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FST 142 or FST 145 (minimum grade C for either)  
Instructor Consent Required



## FYE

### Courses

#### **FYE 100 College Survival Skills**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

An orientation to making a successful transition to college life. Topics include: study skills, time and financial management, netiquette, critical thinking, academic planning, goal setting, diversity, and campus resources. Students must complete one FYE course within the first 12 credits at Cincinnati State.

Prerequisites: Must meet standard for placement into ENG 101

#### **FYE 105 College Success Strategies**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

An orientation to college life with community building activities. Topics include: study skills; time, stress, and financial management; personal health and wellness; critical thinking; academic and financial planning; goal setting; campus resources; diversity; netiquette; emotional intelligence and interpersonal communication. Students must complete one FYE course within the first 12 credits at Cincinnati State.

Prerequisites: None

#### **FYE 110 Community College Experience**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A comprehensive orientation to college life with community building activities. Topics include: study skills; time, stress, and financial management; budgeting; personal health and wellness; critical thinking and emotional intelligence; educational and career planning; goal setting; campus resources; diversity; interpersonal communication; and netiquette. Students must complete one FYE course within the first 12 credits at Cincinnati State.

Prerequisites: None

## GAC

## GEO

### Courses

#### **GEO 105 World Regional Geography: the Americas, Europe, and Australia**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of characteristics and differences of major world regions. Topics include: cultural, economic, political, historical and physical characteristics of North America, Latin America, Europe, Russia, the Baltic States, and Australia/New Zealand.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

#### **GEO 110 World Regional Geography: Asia, Africa, and the Middle East**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of characteristics and differences of major world regions. Topics include: cultural, economic, political, historical, and physical characteristics of Asia and Africa, including the Middle East and Afghanistan.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

#### **GEO 115 Cultural Geography**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Survey of diverse human customs and world patterns of culture. Topics include: ethnicity, population practices, territoriality, the seeking of security and nourishment, resource use, and the commonalities among peoples.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

## GIT

### Courses

#### **GIT 100 Introduction to Graphic Imaging Technology**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on evaluating printing processes. Topics include: lithography, flexography, screen, gravure, and digital-on-demand presses for print media; packaging options for advertising processes such as metal can, corrugated, and plastic packaging; and digital-on-demand presses for packaging.

Prerequisites: None

#### **GIT 105 Ink and Substrates**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on physical characteristics, manufacturing processes, and print industry uses for ink and paper. Topics include: how ink components affect color, drying properties of ink, printing substrates, and cost factors related to ink and paper choices.

Prerequisites: None

#### **GIT 115 Adobe InDesign**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using Adobe InDesign software to create and publish documents for print, web, or mobile devices. Topics include: master pages, styles, images, print production, optimized PDF files, and variable data.

Prerequisites: None

#### **GIT 120 Digital Photography and Imaging**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on producing quality images with digital cameras. Topics include: lighting; color balance; exposure; retouching; and reproducing images for uses including web, digital output devices, and printing presses.

Prerequisites: None

**GIT 130 Letterpress Printing****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to traditional methods of letterpress printing using a Heidelberg Platen press and a proofing press. Topics include: history of printing, basic typography, design and printing techniques using lead and hot metal type, and hand-carving linoleum blocks to make custom artwork.

Prerequisites: None

**GIT 191 Part-Time Cooperative Education 1: Graphic Imaging Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MID 190

**GIT 192 Part-Time Cooperative Education 2: Graphic Imaging Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 191

**GIT 193 Part-Time Cooperative Education 3: Graphic Imaging Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 192

**GIT 194 Part-Time Cooperative Education 4: Graphic Imaging Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 193

**GIT 195 Part-Time Cooperative Education 5: Graphic Imaging Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 194

**GIT 196 Part-Time Cooperative Education 6: Graphic Imaging Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 195

**GIT 200 Digital Imaging and Publishing****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A course on digital printing and output methods. Topics include: digital print processes and equipment, variable data fundamentals, database applications, and emerging technologies. Students must attend tours of companies that use current printing and publishing technologies.

Prerequisites: GIT 100 and GRD 120 and GRD 130

**GIT 215 Applied 2D Graphics: Graphic Imaging Technology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using page layout, vector, and image editing software applications for high-end production processes. Topics include: file construction, resolution of files and devices, trapping techniques, retouching, preflighting, color separations, profiling, color correction, variable data, and proofing.

Prerequisites: GIT 115 and GRD 120 and GRD 130

**GIT 220 Screen Printing****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A course on fundamentals of operating manual and semi-automatic screen printing presses. Topics include: file preparation, frames, mesh, emulsions, inks and additives, and printing on varied substrates and odd-shaped objects.

Prerequisites: GIT 100 and GRD 120 and GRD 130

**GIT 230 Print Media Workflow****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on determining printing job costs, emphasizing paper used in sheet-fed offset and flexographic printing. Topics include: cost factors, computer-assisted estimation and scheduling, file processing in a color-managed environment, and web-based job tracking.

Prerequisites: GIT 100 and GIT 105

**GIT 240 Flexographic Printing Methods****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A course on fundamental principles and practices of the flexographic printing industry. Topics include: artwork preparation, prepress, plates and platemaking, inks, substrates, tooling, presswork, and finishing operations unique to flexography.

Prerequisites: GIT 100 and GRD 120 and GRD 130

**GIT 250 Offset Printing Methods****3 Credits. 1 Lecture Hour. 6 Lab Hours.**

A course on high quality sheet-fed and web-fed offset printing and digital high-volume printing. Topics include: color consistency, controlling dot gain and slur, plugging halftones, maintaining ink and dampening systems, and using quality control production devices.

Prerequisites: GIT 200

**GIT 255 Graphic Imaging Production Processes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on preparing art for professional printing processes. Topics include: survey of print processes such as lithography, flexography, gravure, and screen printing; file construction; design considerations; and standards for evaluating printed materials.

Prerequisites: GRD 215 and GRD 230

**GIT 290 Graphic Imaging Technology Capstone****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Students complete activities that demonstrate their knowledge of concepts and techniques in Graphic Imaging Technology.

Prerequisites: Graphic Imaging Technology Program Chair consent, and minimum 2.5 GPA  
Instructor Consent Required

**GIT 291 Full-Time Cooperative Education 1: Graphic Imaging Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MID 190

**GIT 292 Full-Time Cooperative Education 2: Graphic Imaging Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 291

**GIT 293 Full-Time Cooperative Education 3: Graphic Imaging Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GIT 292

## GRD

### Courses

**GRD 110 Beginning 2D Graphics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to concepts and techniques for digital design. Topics include: vector-based and raster-based graphics, emphasizing color and composition.

Prerequisites: MID 110 and ART 125 (minimum grade C for both)

**GRD 120 Beginning 2D Graphics: Bitmap****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to pixel-based design for multimedia applications. Topics include: principles for creating and manipulating images using Adobe Photoshop, understanding the benefits and limitations of raster-based design tools, and techniques for photo restoration and manipulation.

Prerequisites: ART 125 (minimum grade C)

**GRD 130 Beginning 2D Graphics: Vector****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to vector design for multimedia, emphasizing color and composition, and techniques for stylized and photorealistic illustration. Topics include: principles for creating images with Adobe Illustrator, identity design, layout, and line weight and quality.

Prerequisites: ART 125 (minimum grade C)

**GRD 150 Design Concepts: Typography****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the use of typography as a design element in short-form and long-form applications. Topics include: typography as image, and anatomy of type.

Prerequisites: GRD 110, ENG 101 or ENG REQC (minimum grade C for both)

**GRD 191 Part-Time Cooperative Education 1: Graphic Design****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**GRD 192 Part-Time Cooperative Education 2: Graphic Design****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GRD 191

**GRD 193 Part-Time Cooperative Education 3: Graphic Design****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GRD 192

**GRD 194 Part-Time Cooperative Education 4: Graphic Design****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GRD 193

**GRD 195 Part-Time Cooperative Education 5: Graphic Design****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GRD 194

**GRD 196 Part-Time Cooperative Education 6: Graphic Design****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GRD 195

**GRD 200 Graphic Design Portfolio Review****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

An assessment of skills required to enter upper-level courses in the Graphic Design program, including a technical skills exam and presenting a portfolio to a panel of evaluators. Students receive grades of Satisfactory or Unsatisfactory, and must pass the course to be eligible for cooperative education assignments. Those who do not pass may make one additional attempt.

Prerequisites: Graphic Design Program Chair consent  
Instructor Consent Required

**GRD 210 Applied 2D Graphics: Audio/Video Production****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of GRD 110, focusing on creating 2D graphics for use in on-screen video applications.

Prerequisites: GRD 110 (minimum grade C)

**GRD 215 Applied 2D Graphics: GRD****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of GRD 110, focusing on creating 2D graphics for print and graphic design applications.

Prerequisites: GRD 110 (minimum grade C)

**GRD 220 Applied 2D Graphics: Web Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applications of 2D graphics techniques for raster-based and vector-based software, focusing on creating 2D graphics for Web and multimedia applications.

Prerequisites: GRD 120 and GRD 130 and WEB 111 (minimum grade C for all)

**GRD 230 Brand Identity Development****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the development of strong brand identity concepts and materials for products and organizations. Topics include: analyzing existing brands, creating new brand identities, and developing brand standards manuals.

Prerequisites: GRD 200

**GRD 240 Packaging Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on 2D design for product packaging. Topics include: analyzing audiences, creating basic die lines, and ensuring design continuity from surface to surface.

Prerequisites: GRD 200, GRD 215

**GRD 250 User Interface Design and Implementation****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on designing and implementing the interface for web and mobile products, using Adobe Muse and WordPress software.

Prerequisites: GRD 110 and WEB 111

**GRD 260 3D Visualization****5 Credits. 3 Lecture Hours. 4 Lab Hours.**

An introduction to 3D concepts and skills using Maya software. Topics include: polygon, NURBS, and subdivision surface modeling; texturing; animation; lighting; rendering; interaction of soft and rigid body solvers; dynamics; and manipulation of 3D attributes using nodes and connections.

Prerequisites: GRD 200

**GRD 285 Graphic Design Independent Final Project****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work individually or with an approved team from concept to completion on a graphic design project, and present the results to reviewers. Topic and outline must be presented to a jury of instructors, and approved prior to course registration. Students who do not successfully complete the course may make one additional attempt.

Prerequisites: Graphic Design Program Chair consent, and minimum 3.0 GPA

Instructor Consent Required

**GRD 290 Graphic Design Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work in structured teams to develop graphic design deliverables for an external client, and present the results to reviewers. Activities include audience, client, and market analysis; and all phases of production of materials. Students who do not successfully complete the course may make one additional attempt.

Prerequisites: Graphic Design Program Chair consent, and minimum 2.5 GPA

Instructor Consent Required

**GRD 291 Full-Time Cooperative Education 1: Graphic Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**GRD 292 Full-Time Cooperative Education 2: Graphic Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GRD 291

**GRD 293 Full-Time Cooperative Education 3: Graphic Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GRD 292

**GRD 294 Internship 1: Graphic Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MID 190, GRD 200

**GRD 295 Internship 2: Graphic Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: GRD 294

## HFT

## HIM

### Courses

#### **HIM 100 Introduction to Health Information Management** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on key concepts of the health information management profession and health care documentation. Topics include: function, maintenance, storage, and processing of health records; and accreditation/regulatory requirements for health record documentation in acute and specialized care settings.

Prerequisites: ENG 085 or appropriate placement  
Instructor Consent Required

#### **HIM 105 Legal Aspects of Health Information Management** **2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the health record as a legal document. Topics include: Health Insurance Portability and Accountability Act (HIPAA) regulations, release-of-information procedures, legal requirements for health record documentation, risk management, and physician credentialing.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

#### **HIM 110 Healthcare Quality Management and Data Analysis** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of quality improvement and data analysis in healthcare. Topics include: quality improvement activities, tools, and processes; healthcare data analysis and presentation; and calculation of healthcare statistics.

Prerequisites: HIM 100 (minimum grade C)

#### **HIM 115 Clinical Abstracting of Health Data** **1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on abstracting supportive data used for clinical databases. Topics include: analyzing and interpreting health record documentation, establishing medical necessity for common diagnostic tests, Uniform Hospital Discharge Data Set (UHDDS) guidelines, and determining ICD-10-PCS root operations.

Prerequisites: HIM 100 (minimum grade C)

#### **HIM 120 Health Information Technology Systems** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of healthcare information systems, with focus on the electronic health record. Topics include: electronic health record applications, data security, health information exchange, and data governance.

Prerequisites: HIM 105 (minimum grade C)

#### **HIM 130 International Classification of Diseases (ICD) Coding** **4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on principles of the ICD-10 classification system for disease and procedure coding. Topics include: coding for diseases and procedures associated with the endocrine, nervous, musculoskeletal, respiratory, and genitourinary body systems.

Prerequisites: BIO 152 and HIM 115

#### **HIM 135 Pharmacology for Health Information Management** **1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on health information related to drug therapy. Topics include: principles of drug therapy, drug classes and schedules, modes of administration, and indications and adverse effects for the major drug classes.

Prerequisites: BIO 152 and MCH 104

#### **HIM 180 Release of Information Practicum** **1 Credit. 0 Lecture Hour. 7 Lab Hours.**

Students observe and participate in processes specific to the release of health information function performed in a community health care setting. Students also apply release of information principles to complete on-campus assignments and projects. Students must submit documentation for physical exam, immunization, background check, and proof of health insurance prior to the course start.

Prerequisites: HIM 100 and HIM 105

#### **HIM 191 Part-Time Cooperative Education 1: Health Information Management** **1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HIM 100 (minimum grade C)

Instructor Consent Required

#### **HIM 200 Health Information Management Strategies** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental principles of healthcare management. Topics include: skills and methods for effective management of people, budgets, and projects; and roles of teams and committees.

Prerequisites: HIM 130 and HIM 110 and IM 109 (minimum grade C for all)

#### **HIM 210 Healthcare Reimbursement Methodologies** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on reimbursement systems for healthcare services. Topics include: payment systems for inpatient, ambulatory care, and alternative health care settings; compliance monitoring; and management of revenue cycle processes.

Prerequisites: HIM 215 and HIM 225 (minimum grade C for both)  
Ohio Transfer Assurance Guide Approved

#### **HIM 215 Advanced Medical Coding** **4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on advanced principles of medical coding. Topics include: ICD-CM/PCS code assignment for inpatient records, Diagnostic Related Groups (DRG) assignment, and clinical documentation improvement processes.

Prerequisites: HIM 130 (minimum grade C)

#### **HIM 220 Health Information Management Certification Exam Review** **1 Credit. 1 Lecture Hour. 0 Lab Hour.**

Students review theory and practice in health information management to prepare for the national certification examination.

Prerequisites: HIM 105 and HIM 110 and HIM 225 and HIM 215 (minimum grade C for all)

**HIM 225 Current Procedural Terminology (CPT) Coding  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of the Current Procedural Terminology (CPT) coding system used to identify medical services and procedures performed by physicians. Topics include: coding for surgical procedures, radiology, pathology, anesthesiology, and laboratory, evaluation, and management services; and modifiers and Healthcare Procedure Coding System (HCPCS) Level II Codes.

Prerequisites: BIO 152

**HIM 226 Current Procedural Terminology (CPT) Coding 1  
2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on principles of the Current Procedural Terminology (CPT) coding system used to identify medical services and procedures performed by physicians. Topics include: CPT coding system conventions and guidelines, surgical procedure coding, and clinical documentation improvement processes for the ambulatory care setting.

Prerequisites: BIO 240 (minimum grade C)

**HIM 227 Current Procedural Terminology (CPT) Coding 2  
2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of HIM 226. Topics include CPT coding for surgical and non-surgical procedures and physician services, evaluation and management coding, and use of computer-assisted coding software.

Prerequisites: HIM 226 (minimum grade C)

**HIM 280 Health Information Management Professional Practice  
2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students observe and participate in the operational functions of a community health information management department or specialized health information management work setting. Students apply health information management principles to complete on-campus and clinical site assignments and projects.

Prerequisites: HIM 110 and HIM 120 and HIM 200 and HIM 215 and HIM 226 (minimum grade C for all)

**HIM 291 Full-time Cooperative Education 1: Health Information Management  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HIM 100 (minimum grade C)

Instructor Consent Required

## HIT

### Courses

**HIT 100 Language and Culture of Healthcare  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on key elements of the U.S. healthcare system. Topics include: basic operations; in-patient, ambulatory, and mental health services; government influence on healthcare delivery; roles of healthcare professionals; and legal and ethical aspects of healthcare.

Prerequisites: ENG 085 or appropriate placement

**HIT 105 Information Technology Systems in Healthcare  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the use and value of information system technology in healthcare settings. Topics include: choosing and implementing health IT systems, clinical care delivery, and tracking and reporting healthcare delivery outcomes.

Prerequisites: HIT 100

**HIT 191 Part-time Co-op 1: HIT  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HIT 100 (minimum grade C)

Instructor Consent Required

**HIT 192 Part-time Co-op 2: HIT  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HIT 191

Instructor Consent Required

**HIT 210 Healthcare Reimbursement  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the history and use of healthcare reimbursement systems. Topics include: current structure and future directions for private and public healthcare reimbursement systems, and the computer systems and business processes involved in healthcare reimbursement.

Prerequisites: HIT 105

**HIT 215 Healthcare Programming  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on basic theory of healthcare information system integration. Topics include: designing, coding, implementing and supporting HL7 transactions, and the value of health information system integration within an organization and across disparate organizations.

Prerequisites: HIT 105

**HIT 220 Health Information Technology in the Continuum of Care  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on health information systems in non-hospital healthcare settings. Topics include: integrating and exchanging patient information across care settings, using health information to improve patient care and public health outcomes, and protecting health information security and integrity.

Prerequisites: HIT 105

**HIT 225 Data Mining  
3 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques of data mining, the computer-assisted process of evaluating sets of data to find previously undiscovered patterns, draw conclusions, and make decisions based on those patterns.

Prerequisites: IT 112, MAT 131

**HIT 291 Full-Time Cooperative Education 1: Health Information Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HIT 105, IT 111, BPA 130, CIT 190 (minimum grade C for all)

**HIT 292 Full-Time Cooperative Education 2: Health Information Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HIT 291

**HIT 294 Internship: Health Information Technology****1 Credit. 0 Lecture Hour. 20 Lab Hours.**

Students participate in an unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IT 111 and HIT 210 and IT 101

## HNR

### Courses

**HNR 100 Orientation to Honors****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course required for students admitted to the Honors Experience.

Prerequisites: Admitted to the Honors Experience or instructor consent

**HNR 198 First Year Special Topics in Honors Program****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Honors Program, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Vary by section

## HRM

### Courses

**HRM 100 Hospitality Careers****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

An introduction to the hospitality industry including history, structure, trends, and career opportunities. This course is offered through online instruction only.

Prerequisites: ENG 085 or appropriate placement

**HRM 110 Food and Beverage Cost Control****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on food service cost control systems. Topics include: food, beverage, and labor cost control; sales control; and profit and loss analysis.

Prerequisites: MAT 093 or appropriate placement

**HRM 115 Rooms Division Management****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on rooms division management and operations. Topics include: operating procedures for performing the hotel audit, registration and reservations, hotel rates, posting charges and credits, housekeeping and sanitation, and security.

Prerequisites: None

**HRM 130 Food and Beverage Division Management****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for food and beverage management and operations. Topics include: leadership and supervision, operating procedures, and internal and external marketing of food and beverage services.

Prerequisites: ENG 101

**HRM 135 Event, Meeting, and Convention Management****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for effective management of special events. Topics include: event planning, sales processes within catering operations, and negotiating sales and catering contracts.

Prerequisites: HRM 115

**HRM 191 Part-Time Cooperative Education 1: Hospitality Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent

Instructor Consent Required

**HRM 192 Part-Time Cooperative Education 2: Hospitality Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 191

**HRM 193 Part-Time Cooperative Education 3: Hospitality Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 192

**HRM 194 Part-Time Cooperative Education 4: Hospitality Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 193

**HRM 195 Part-Time Cooperative Education 5: Hospitality Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: HRM 194

**HRM 196 Part-Time Cooperative Education 6: Hospitality Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: HRM 195

**HRM 291 Full-Time Cooperative Education 1: Hospitality Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent

**HRM 292 Full-Time Cooperative Education 2: Hospitality Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: HRM 291

**HRM 293 Full-Time Cooperative Education 3: Hospitality Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: HRM 292

## HST

### Courses

**HST 101 World History: First Civilizations to 1500****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Survey of world history from the first civilizations until the modern era. Topics include: the first civilizations of China, India, the Americas, Europe, Greece, Asia, and Africa.  
Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**HST 102 World History: 1500 to Present****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Survey of world history from the modern era until the present. Topics include: creation of a world market, Europe transformed, Muslim Empire, new world order, modernization, imperialism, crises of the 20th century, and World War II and its aftermath.  
Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**HST 111 American History: Early Settlers to 1877****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Survey of the formative years of the Republic from Colonial America through 1877. Topics include: early settlements, independence, slavery, expansion west, the Civil War, and Reconstruction.  
Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**HST 112 American History: 1877 to Present****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Survey of U.S. history from the end of Reconstruction until the present. Topics include: expansion, the Gilded Age, the Progressive Era, World War I, the Great Depression, World War II, the Cold War, and the 1960s.  
Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**HST 121 African American History: Origins to 1877****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the African American experience. Topics include: origins in Africa, the Atlantic slave trade, North American slavery, the Civil War, emancipation, and post-Civil War reconstruction.  
Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

**HST 122 African American History: 1877 to Present****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the African American experience after 1877. Topics include: legal, social, and economic restrictions and struggle for equality; racial intolerance; the Civil Rights Movement; and contemporary realities of race.  
Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

**HST 130 History of Africa****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on major developments in African history from the 15th century to the present. Topics include: the Atlantic slave world, colonization, contemporary sub-Saharan Africa, nationalism, independence movements, and developing nations.  
Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved



**HST 140 History of Cincinnati****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the political, social, economic, and cultural development of Cincinnati, from the city's founding to the present. Topics include: the German heritage, the role of a river city, industrialization, and the city's contributions to U.S. history and culture.

Prerequisites: ENG 085 or appropriate placement

**HST 161 Western Civilization: Origins to 1648****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A survey of major historical developments in western civilization from pre-history to the early modern era. Topics include Near Eastern, Greek and Roman populations, the Middle Ages, and the formation of monarchies in Western Europe.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**HST 162 Western Civilization: 1648 to Present****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A survey of major historical developments in western civilization from the early modern era in Europe to the present. Topics include religious wars; industrialization; urbanization; and world politics including World War I and World War II, the Cold War, and the rise of competing political and economic systems.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

## HSV

### Courses

**HSV 110 Introduction to Human Services****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to the human services field. Topics include: settings where human services professionals practice; the role of the social work assistant; ethical, legal, and professional standards; and understanding how to serve a diverse population.

Prerequisites: ENG 101

**HSV 115 Counseling and Interviewing Techniques****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on components of interviewing and counseling within the helping professions. Topics include: counseling theory and techniques, and intervention strategies and skills used by human services professionals.

Prerequisites: HSV 110 or SWK 110 or PSY 110 (minimum grade C for all)

**HSV 210 Treatment Planning and Documentation****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on record keeping for the human services profession. Topics include: functional, legal, and ethical aspects of documentation; electronic record keeping; and problem statements, client assessments, goal/service plans, and progress notes.

Prerequisites: HSV 110 and HSV 115 (minimum grade C for both)

**HSV 215 Group Work in Human Services****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the history, practice, and theory of group work pertaining to human/social service settings. Topics include: types of groups, stages of the group process, role of the facilitator, participant roles and influences, and group counseling techniques.

Prerequisites: HSV 110 (minimum grade C)

**HSV 220 Family Theory and Services****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on family theories, counseling approaches, and intervention strategies. Topics include: services and resources available to families, concepts related to traditional and nontraditional families, and intergenerational patterns of behavior and family traits.

Prerequisites: HSV 110 or SWK 110 (minimum grade C for both)

**HSV 291 Human Services Practicum 1****2 Credits. 1 Lecture Hour. 10 Lab Hours.**

Students spend at least 10 hours per week, for a total of 150 hours for the semester, at a community agency providing direct service under professional supervision. Students also participate in a weekly 1-hour seminar. Confidentiality and professionalism are emphasized.

Prerequisites: HSV 110 and HSV 115 and HSV 210 (minimum grade C for all)

**HSV 292 Human Services Practicum 2****2 Credits. 1 Lecture Hour. 10 Lab Hours.**

A continuation of HSV 291, focused on developing and enhancing skills. Students spend at least 10 hours per week, for a total of 150 hours for the semester, at a community agency providing direct service under professional supervision. Students also participate in a weekly 1-hour seminar.

Prerequisites: HSV 291 (minimum grade C)

## HUM

### Courses

**HUM 190 Career Exploration Seminar: Associate of Arts / Associate of Science****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

Students seeking an Associate of Arts or Associate of Science degree assess their life experience, skills, and interests, and carry out a variety of structured activities (including directed reading and writing assignments) in order to set realistic career goals. Students should complete this course during their second academic semester.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement

**HUM 191 Part-Time Cooperative Education 1: Associate of Arts and Sciences****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an Associate of Arts or Associate of Sciences degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 190

**HUM 192 Part-Time Cooperative Education 2: Associate of Arts and Sciences****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an Associate of Arts or Associate of Sciences degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 191

**HUM 194 Part-Time Career Education Project 1: Associate of Arts and Sciences****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an Associate of Arts or Associate of Sciences degree complete their first individual study or a special project related to their major field and pertaining to their career goals. Working with an assigned faculty mentor, students define the project goals, carry out project tasks, and evaluate the results. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 190 and coordinator consent  
Instructor Consent Required**HUM 195 Part-Time Career Education Project 2: Associate of Arts and Sciences****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an Associate of Arts or Associate of Sciences degree complete their second individual study or a special project related to their major field and pertaining to their career goals. Working with an assigned faculty mentor, students define the project goals, carry out project tasks, and evaluate the results. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 194 and coordinator consent  
Instructor Consent Required**HUM 291 Full-Time Cooperative Education 1: Associate of Arts and Sciences****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an Associate of Arts or Associate of Sciences degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 190

**HUM 292 Full-Time Cooperative Education 2: Assoc****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an Associate of Arts or Associate of Sciences degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 291

**HUM 294 Internship: Associate of Arts and Sciences****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an Associate of Arts or Associate of Sciences degree participate in an unpaid field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 190

**HUM 296 Full-Time Career Education Project: Associate of Arts and Sciences****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an Associate of Arts or Associate of Sciences degree complete individual study or a special project related to their major field and pertaining to their career goals. Working with an assigned faculty mentor, students define the project goals, carry out project tasks, and evaluate the results. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 190 and coordinator consent  
Instructor Consent Required

## IDD

### Courses

**IDD 105 Introduction to Intellectual and Developmental Disabilities****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts in the study of intellectual and developmental disabilities (IDD). Topics include: history, definitions, legal rights, identification and treatment options, behavioral interventions and trauma-informed care, community services, life transitions, and the impact of culture in the lives of individuals with IDD.

Prerequisites: ENG 085 or appropriate placement

**IDD 110 Community Services for Intellectual and Developmental Disabilities****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to IDD community services and resources. Topics include: professional roles, referrals, early interventions, education and employment options, community living, assistive technology, social inclusion, and supporting diversity.

Prerequisites: ENG 085 or appropriate placement

**IDD 115 Legal Rights and Intellectual and Developmental Disabilities****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on legal rights for individuals with intellectual and developmental disabilities. Topics include: the Americans with Disabilities Act; rights and empowerment; abuse and neglect; ethics; service plans and Individualized Education Programs (IEP); Medicaid; IDD and the justice system; and protection of diversity in the IDD community.

Prerequisites: IDD 105

**IDD 190 Intellectual and Developmental Disabilities Practicum****2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students seeking the IDD Certificate participate in an unpaid off-campus learning experience integrated with academic instruction. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IDD 105 and IDD 110

## IM

### Courses

**IM 100 Computer Literacy****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamental concepts and skills for using computers.

Prerequisites: None

**IM 105 Keyboarding Skills****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamental techniques for building keyboarding speed and formatting documents. Students must achieve a minimum speed of 15 words per minute to pass the course.

Prerequisites: None

**IM 106 Introductory Electronic Word Processing: Microsoft Word****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental practical applications of Microsoft Word software. Topics include: creating and formatting documents, tables, and reports.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 107 Introductory Electronic Presentations: Microsoft PowerPoint****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamentals of developing effective slide presentations using Microsoft Office PowerPoint software. Topics include: creating and editing presentations with pictures, and adding media and animation.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 108 Introductory Electronic Spreadsheets: Microsoft Excel****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental techniques for using Microsoft Office Excel software. Topics include: constructing worksheets, writing formulas, using functions, and creating graphs.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**IM 109 Introductory Database Management: Microsoft Access****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental practical applications of Microsoft Office Access software. Topics include: developing tables, queries, and reports; working in datasheet and design view; and maintaining database files.

Prerequisites: ENG 085 or appropriate placement

**IM 111 Computer Applications****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental skills for using workplace software applications. Topics include: Microsoft Office applications for word processing (MS Word), spreadsheets (MS Excel), database management (MS Access), and presentations (MS PowerPoint); the MS Windows operating system; using the internet; and file storage.

Prerequisites: ENG 080 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed or higher

**IM 115 Administrative Office Procedures and Practices****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts and skills required to perform office administration duties and activities.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

Corequisites: IM 130

**IM 120 Electronic Spreadsheets: Microsoft Excel****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for using Microsoft Office Excel spreadsheet software. Topics include: constructing worksheets, writing formulas, constructing macros, and using spreadsheets with databases.

Prerequisites: ENG 085 and MAT 093 or appropriate placements

**IM 130 Electronic Word Processing: Microsoft Word****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for word processing using Microsoft Office Word software. Topics include: developing letters and reports, using mail merge, and designing forms.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 135 Business Document Formatting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on composing, editing, and formatting professional business documents using appropriate business communication methods.

Prerequisites: IM 130 (minimum grade C) and 40 wpm minimum keyboarding speed

**IM 140 Electronic Database Management: Microsoft Access****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts and skills for using Microsoft Office Access database management software. Topics include: designing, customizing, and maintaining database files; and integrating database files with other software applications.

Prerequisites: IM 111 or IM 130 (minimum grade C for both)

**IM 145 Document Proofreading and Editing****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using editing and proofreading skills to produce documents that are correct, complete, concise, coherent, clear, and courteous.

Prerequisites: ENG 101, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 150 Electronic Presentations: Microsoft PowerPoint****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on skills for developing effective slide presentations using Microsoft Office PowerPoint software.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 155 Emerging Technologies and Social Media****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on using web tools and social media in the workplace. Topics include: Microsoft Office OneNote, speech recognition, digital cameras, scanners, tablets, web communication including blogs and podcasts, and establishing brand identity through social media.

Prerequisites: IM 111 or IM 130 (minimum grade C for both)

**IM 160 Electronic Publications: Microsoft Publisher****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills for preparing professional documents that combine text and images using Microsoft Publisher software.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 165 Legal Office Environment****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on legal concepts and the structure of law firms as applicable to paralegals and other support staff. Topics include: legal terminology, court systems and procedures, administrative functions, and ethics and professionalism.

Prerequisites: ENG 085 or appropriate placement

**IM 170 Electronic Project Management: Microsoft Project  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on skills for creating project plans and schedules using Microsoft Project software. Topics include: communicating project information, assigning and tracking resources and costs, tracking progress, and sharing project information with people and with other software applications.

Prerequisites: IM 130 (minimum grade C)

**IM 191 Part-Time Cooperative Education 1: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**IM 192 Part-Time Cooperative Education 2: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 191

**IM 193 Part-Time Cooperative Education 3: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 192

**IM 194 Part-Time Cooperative Education 4: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 193

**IM 195 Part-Time Cooperative Education 5: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 194

**IM 196 Part-Time Cooperative Education 6: Information Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 195

**IM 200 Information Systems for Managers  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on foundational concepts related to use of information systems such as the internet, e-mail, spreadsheet software, and database software.

Prerequisites: ENG 085 or appropriate placement, and IM 105 (minimum grade C) or 20 wpm keyboarding speed

**IM 225 Legal Transcription and Formatting  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on preparing and transcribing a variety of legal documents for litigation, probate, and family law practices. Topics include: legal terminology, attention to detail, and proofreading.

Prerequisites: IM 135 and IM 165 (minimum grade C for both)

**IM 260 Medical Administrative Procedures  
3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills for appropriately operating any computerized billing and scheduling software used in medical offices. Topics include: terminology, gathering patient information, and entering transactions. Students complete case studies using billing/scheduling software.

Prerequisites: IM 115 and IM 130 (minimum grade C for both) and MCH 102

**IM 290 Administrative Assistant Capstone  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students seeking the Administrative Assistant associate degree complete projects that demonstrate proficiency in integrated use of workplace software applications, as well as proficiency in techniques for research and communication.

Prerequisites: IM 120, IM 130, IM 140, and IM 145 (minimum grade C for all)

**IM 291 Full-Time Cooperative Education 1: Information Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**IM 292 Full-Time Cooperative Education 2: Information Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 291

### **IM 293 Full-Time Cooperative Education 3: Information Management**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IM 292

## **IT**

### **Courses**

#### **IT 100 Computer Programming Foundations**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental concepts related to computer programming.

Topics include: problem solving and developmental tools, design techniques such as flow charting and pseudo coding, and testing techniques used in programming.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

#### **IT 101 Programming 1**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to software development. Topics include: application design methods, application testing methods, the sequential structure of programming, the conditional structure of programming, variables, and modular programming concepts using procedures and functions.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

#### **IT 102 Programming 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 101. Topics include: the iterative programming structure, database programming, array processing, and string manipulation techniques.

Prerequisites: IT 101 and IT 111 (minimum grade C for both)

#### **IT 103 .NET Programming 3**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 102. Topics include: creating, debugging, and maintaining web-based database applications using the .NET framework.

Prerequisites: IT 102 and IT 111

#### **IT 105 Information Technology Concepts**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on information technology fundamentals. Topics include: the internet, software, hardware, input/output (I/O) and storage, operating systems, communications and networks, database management, security, system development, programming, enterprise computing, and numbering systems. The course is delivered through online instruction only.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

#### **IT 110 HTML with CSS and JavaScript**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on internet programming using HTML, CSS, and JavaScript. Topics include: HTML commands, cascading style sheets, JavaScript commands, web applications (apps), and dynamic web pages.

Prerequisites: None

#### **IT 111 Database Design and SQL 1**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of relational database design and implementation using Microsoft SQL Server. Topics include: SQL Enterprise Manager, fundamentals of database design and normalization, data import and export, Structured Query Language (SQL), indexes and keys, views, and stored procedures.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

#### **IT 112 Database Design and SQL 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 111. Topics include: advanced stored procedures using transact SQL, user defined functions, triggers, user defined data types, full text searching, replication, database maintenance plans, and designing data models from abstract requirements.

Prerequisites: IT 111 (minimum grade C)

#### **IT 115 Operating Systems Administration 1**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the Windows operating system used on PCs. Topics include Windows utilization and management, utilities, managing disks, disaster recovery, troubleshooting, user management, productivity tools, and performance issues. This course prepares students for a Microsoft Certification exam.

Prerequisites: ENG 085 or appropriate placement

#### **IT 116 Operating Systems Administration 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 115. Topics include: managing software problems; managing virtualization; and client configuration, development, deployment, and security. This course prepares students for a Microsoft Certification exam.

Prerequisites: IT 115 (minimum grade C)

#### **IT 117 Web Application Development 1**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of web-based application development. Topics include: current front-end and back-end technologies used to develop business-related applications, and understanding infrastructure to support application development.

Prerequisites: IT 102 and CPDM 120 (minimum grade C for both)

#### **IT 118 Web Application Development 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT-117. Topics include: using current front-end and back-end technologies to develop business-related applications.

Prerequisites: IT 117

#### **IT 140 PHP and MySQL**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course in PHP web programming with a MySQL database. Topics include: PHP language, syntax, variables, and forms; MySQL database design; connecting to a MySQL database using PHP; inserting, editing, and deleting MySQL data using PHP; and building dynamic web pages using PHP and MySQL.

Prerequisites: IT 101 and IT 110

#### **IT 150 Logistics and Distribution Technology**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on technologies and software used in supply chain management for freight, air, and maritime logistics operations. Topics include: barcodes, radio-frequency identification (RFID), Wi-Fi tags, logistics and inventory software, high frequency tracking, and passive/active tracking.

Prerequisites: None

**IT 161 Java Programming 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of the Java programming language. Topics include: data types, variables, basic command line input/output, decisions, loops, procedures, string manipulation, arrays, object-oriented development, event programming, and database programming.

Prerequisites: CPDM 120 and IT 102 (minimum grade C for both)

**IT 162 Java Programming 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 161. Topics include: Java Server Pages (JSP) and complex database applications using Java and JSP.

Prerequisites: IT 161

**IT 212 Business Intelligence, Data Warehousing, and Reporting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts, technologies, and techniques used to effectively consolidate, arrange, and analyze large amounts of data. Topics include: decision support systems, data mining, and how to derive business value from large amounts of data.

Prerequisites: IT 112

**IT 215 Scripting****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on task automation and configuration management using Microsoft PowerShell programming language. Topics include: modifying existing PowerShell scripts, and creating new scripts to automate common tasks.

Prerequisites: NETB 155

**IT 218 Web Application Development 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 117. Topics include advanced front-end and back-end processing to develop advanced web-based applications.

Prerequisites: IT 117

**IT 220 Emerging Topics in Computer Software Development****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on current topics related to Computer Software Development such as data reporting, XML, and other new concerns.

Prerequisites: IT 101, IT 110, IT 111

**IT 262 Java Programming 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 161, with focus on completing complex projects using Java and associated technologies.

Prerequisites: IT 161

# ITP

## Courses

**ITP 120 Psychosocial Aspects of Deafness****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

An introductory course on psychosocial aspects of Deafness. Topics include: language, norms of behavior, values, and traditions within Deafness; and the evolution of the view of Deaf people from a pathological to a cultural perspective.

Prerequisites: None

**ITP 125 Deaf Culture and History****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

An introductory course on the unique characteristics influencing Deaf people throughout the past hundred years, and the achievements and accomplishments of Deaf individuals in various professional fields.

Prerequisites: None

**ITP 130 Legal Issues of Deafness****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on the legal rights of the Deaf and people with other disabilities, and the social service organizations and other agencies that serve the Deaf population.

Prerequisites: None

**ITP 135 Introduction to the Interpreting Profession****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course offering a framework for understanding the field of interpreting. Topics include: role of the interpreter in various settings, the interpreting process, physical factors, language variations, and the Code of Professional Conduct.

Prerequisites: None

**ITP 140 Fingerspelling and Numbers****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course providing intensive practice in comprehension and production of fingerspelled words and numbers, with emphasis on clarity and accuracy.

Prerequisites: ITP 101 (minimum grade C) or ITP Program Chair consent

**ITP 191 ITP Limited Practicum 1****1 Credit. 1 Lecture Hour. 3 Lab Hours.**

Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 250 (minimum grade C)

**ITP 192 ITP Limited Practicum 2****1 Credit. 1 Lecture Hour. 3 Lab Hours.**

A continuation of ITP 191. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 191 (minimum grade C)

**ITP 193 ITP Limited Practicum 3****1 Credit. 1 Lecture Hour. 3 Lab Hours.**

A continuation of ITP 192. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 192 (minimum grade C)

**ITP 194 ITP Limited Practicum 4****1 Credit. 1 Lecture Hour. 3 Lab Hours.**

A continuation of ITP 193. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 193 (minimum grade C)

**ITP 195 ITP Limited Practicum 5****1 Credit. 1 Lecture Hour. 3 Lab Hours.**

A continuation of ITP 194. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 194 (minimum grade C)

**ITP 196 ITP Limited Practicum 6****1 Credit. 1 Lecture Hour. 3 Lab Hours.**

A continuation of ITP 195. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 195 (minimum grade C)

**ITP 205 Performance Interpreting****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on interpreting for theatre and other performance art venues.

Topics include: vocabulary and skill building, and script translation.

Prerequisites: ITP 201 (minimum grade C)

**ITP 210 Deaf-Blind Interpreting****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the skills, protocols, and techniques necessary to communicate with, interpret for, and guide individuals who are Deaf-Blind.

Prerequisites: ITP 201 (minimum grade C)

**ITP 215 Religious Interpreting****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on interpreting in religious settings. Topics include: religious signs and their relationships to various religious settings.

Prerequisites: ITP 201 (minimum grade C)

**ITP 220 Educational Interpreting****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on interpreting in educational settings. Topics include: the educational setting, the code of professional conduct, inservicing, and the IEP process. The Ohio Department of Education's Interpreter Guidelines are included in the curriculum.

Prerequisites: ITP 201 (minimum grade C)

**ITP 225 Vocabulary Building****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course reviewing sign vocabulary already learned as well as introduction of new vocabulary in order to scaffold the student's sign vocabulary base. Topics include: ASL structure, appropriate sign parameters, and conceptual accuracy.

Prerequisites: ITP 201 (minimum grade C)

**ITP 230 Intermediate Assessment****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on reviewing and teaching ASL vocabulary and structure, culminating in the Intermediate Assessment. Students receive a course grade of Satisfactory or Unsatisfactory.

Prerequisites: ITP 201 (minimum grade C)

Corequisites: Take ITP-202

**ITP 250 Interactive Interpreting****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theoretical strategies and practice in interpreting simultaneously between spoken English and American Sign Language. Topics include: applying components of the Demand-Control schema, and applying advanced interpreting techniques. Students must pass this class as a prerequisite to practicum experience.

Prerequisites: ITP 202 and ITP 230 (minimum grade C for both)

**ITP 261 Advanced Interpreting 1: Sign to Voice****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles and strategies of interpreting from American Sign Language into spoken and written English equivalents. Topics include: the technical and mental processes involved in ASL-to-English interpretation simultaneously and consecutively using the Conomos and Gish Models.

Prerequisites: ITP 202 and ITP 230 (minimum grade C for both)

**ITP 262 Advanced Interpreting 2: Sign to Voice****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A continuation of ITP 261. Topics include: signing with live models and unknown material.

Prerequisites: ITP 261 (minimum 80% on Voicing Evaluation)

**ITP 265 Interpreting in Specialized Settings****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on specialized vocabulary used in advanced interpreting settings. Topics include: vocabulary related to mental health, social work, and legal interpreting settings.

Prerequisites: ITP 202 and ITP 230 (minimum grade C for both)

**ITP 270 Transliterating****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on transmitting spoken English into English-based sign language. Topics include: initialized signs and other English-related communication systems.

Prerequisites: ITP 202 and ITP 230 (minimum grade C for both)

**ITP 275 Interpreting in Medical Settings****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on applying interpreting/transliterating skills in medical settings. Topics include: development of discourse analysis, expressive and receptive skills production, feedback on interpreting skills in this specialized setting, development of specialized vocabulary, and application of the Demand-Control schema.

Prerequisites: ITP 202 and ITP 230 (minimum grade C for both)

**ITP 280 Interpreter Professionalism****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the professional components of becoming a sign language interpreter. Topics include: resume building; and appropriate conduct in the workplace, in interviews, and online.

Prerequisites: ITP 251 (minimum grade C)

**ITP 291 ITP Parallel Practicum 1****2 Credits. 2 Lecture Hours. 5 Lab Hours.**

Students spend five hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.

Prerequisites: ITP 250 (minimum grade C)

**ITP 292 ITP Parallel Practicum 2****2 Credits. 2 Lecture Hours. 5 Lab Hours.**

A continuation of ITP 291. Students spend five hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.  
Prerequisites: ITP 291 (minimum grade C)

**ITP 293 ITP Parallel Practicum 3****2 Credits. 2 Lecture Hours. 5 Lab Hours.**

A continuation of ITP 292. Students spend five hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.  
Prerequisites: ITP 292 (minimum grade C)

**ITP 294 Educational Interpreting Practicum****2 Credits. 2 Lecture Hours. 5 Lab Hours.**

Students spend 100 hours during the semester in a K-12 setting completing supervised observations of a working interpreter and practice in the role of an educational interpreter. Students also participate in weekly seminars.  
Prerequisites: ITP 192 or ITP 291 or ITP 295 (minimum grade C for all)

**ITP 295 ITP General Practicum 1****3 Credits. 2 Lecture Hours. 10 Lab Hours.**

Students spend ten hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.  
Prerequisites: ITP 250 (minimum grade C)

**ITP 296 ITP General Practicum 2****3 Credits. 2 Lecture Hours. 10 Lab Hours.**

A continuation of ITP 295. Students spend ten hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.  
Prerequisites: ITP 295 (minimum grade C)

# LAW

## Courses

**LAW 101 Business Law****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the legal environment in which businesses operate.  
Prerequisites: ENG 085 (minimum grade C) or appropriate placement  
Ohio Transfer Assurance Guide Approved

**LAW 110 Employment Law****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on major federal laws regarding employment rights, and responsibilities of the employer and employee. Topics include: public policy and processes related to hiring, work environment, and resignation and termination; and recent trends in employment law.  
Prerequisites: ENG 080 or appropriate placement

**LAW 120 Legal Research and Writing****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques for conducting legal research and composing legal documents. Topics include: research purposes and uses; citation procedure and format; computer research tools including LEXIS; and writing materials such as briefs, pleadings, memorandums, motions, and discovery documents.  
Prerequisites: LAW 101 and ENG 101

**LAW 130 Estate Planning, Family and Probate Law****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and processes of family and probate law and estate planning. Topics include: marriage, dissolution, divorce, and prenuptial agreements; child custody, visitation, and support; adoption and guardianship; juvenile law; and trusts and estate administration.  
Prerequisites: ENG 085 or appropriate placement, and LAW 101

**LAW 140 Copyright and Trademark Law in Entertainment Industries****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and processes used to protect intellectual property in entertainment industries. Topics include: representing creative talent; business and personality interests; licensing; copyright; and legal concerns in music publishing, sound recording, literary publishing, and film and television.  
Prerequisites: LAW 101

**LAW 150 Bankruptcy, Debt Collection and Secured Transactions****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the bankruptcy code and the bankruptcy process from debtor and creditor perspectives. Topics include: filing Chapter 7, 13, and 11 bankruptcies; individual and business liquidation and reorganization plans; and secured transactions including mortgages and other liens.  
Prerequisites: LAW 101

**LAW 160 Immigration and Administrative Law Practices and Procedures****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on forms, procedures, and case management methods used in immigration law and other administrative agencies. Topics include: intake, claim filing, processing, and handling appeals related to immigration, Social Security, unemployment, worker's compensation and other state and federal agencies.  
Prerequisites: LAW 101

**LAW 191 Part-Time Cooperative Education 1: Legal Assistant****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 190 (minimum grade C)

**LAW 192 Part-Time Cooperative Education 2: Legal Assistant****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 191



**LAW 193 Part-Time Cooperative Education 3: Legal Assistant  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 192

**LAW 194 Part-Time Cooperative Education 4: Legal Assistant  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 193

**LAW 195 Part-Time Cooperative Education 5: Legal Assistant  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 194

**LAW 196 Part-Time Cooperative Education 6: Legal Assistant  
1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 195

**LAW 210 Litigation****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and processes of criminal and civil litigation. Topics include: parties to lawsuits, pleadings, motion practice, Federal Rules of Civil and Criminal Procedure, Federal Rules of Evidence, discovery, trial judgments, and alternative dispute resolution.  
Prerequisites: LAW 101 and ENG 101

**LAW 290 Paralegal Capstone****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Students use knowledge and skills gained in previous courses to complete a project related to the duties of the paralegal.  
Prerequisites: IM 225 and LAW 120 (minimum grade C for both)

**LAW 291 Full-Time Cooperative Education 1: Legal Assistant  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: BUS 190 (minimum grade C)

**LAW 292 Full-Time Cooperative Education 2: Legal Assistant  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 291

**LAW 293 Full-Time Cooperative Education 3: Legal Assistant  
2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: LAW 292

## LBR

### Courses

**LBR 105 Introduction to Labor and Employee Relations  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of the historical, legal and structural status of management and labor in unionized and non-union environments in the public and private sectors. Topics include: labor history, modern labor federations, union organizing and certification, contract negotiation and administration, grievance and arbitration, and analysis of current labor issues.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Module Approved

## LDR

### Courses

**LDR 100 Introduction to Leadership****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A foundational course on the practice of leadership. Topics include: understanding and assessing self as leader, inclusion, ethics, listening to out-group members, leaders and followers, and managing conflict. Students examine their characteristics that prepare them for leadership and their areas that may need development.

Prerequisites: ENG 080 (minimum grade C) or appropriate placement

**LDR 105 Self as Leader****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developing leadership skills and designing a personal model of leadership. Topics include: assessing strengths and areas of growth to develop as a leader, perceptions of leadership, values and ethics, decision-making, motivation, innovation, emotional intelligence, and making a difference.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement

**LDR 110 Leading for Social Change****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the Social Change Model of leadership development. Topics include: identifying values, beliefs, and social identity in the context of leadership for the common good; leadership and global citizenship; civic engagement; and integrating leadership with cultural competency and social justice. Students design, facilitate, and evaluate a social change project.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement

**LDR 120 Inclusive Leadership****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on leading diverse groups and individuals. Topics include: building on differences, creating an inclusive team culture and climate, adapting leadership styles for the appropriate context, and inclusive leadership skills and competencies.

Prerequisites: LDR 100 and ENG 085 (minimum grade C for both) or appropriate placement

**LDR 200 Transformational Leadership in Practice****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts and applications of transformational leadership. Topics include: recognizing leadership traits and styles, team leadership skills, and positive peer mentoring skills. Students in this course serve as peer mentors for students beginning their college career.

Prerequisites: PSY 105 (minimum grade B)

**LDR 220 Critical Thinking in Leadership****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students to apply leadership skills in critical thinking, problem solving, and team building, and also prepares students for Collegiate Leadership Competition events.

Prerequisites: ENG 085 or appropriate placement

Instructor Consent Required

**LDR 225 Leading Teams****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on leading highly successful teams. Topics include: team dynamics and communication, theories of group intervention, and leader styles and behaviors that facilitate team performance. Students function as team members and as a team leader.

Prerequisites: ENG 085 or appropriate placement, and LDR 100 (minimum grade C for both)

**LDR 230 Ethical Leadership****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on concepts and approaches to applying ethics to leadership. Topics include: self-assessment of leadership skills, strategies for promoting ethical decision-making in varied situations, and meeting the ethical challenges of cultural diversity.

Prerequisites: LDR 100 and ENG 085 (minimum grade C for both), or appropriate placement

**LDR 240 Applied Leadership Theory****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on applying current interdisciplinary theories of leadership to the practice of leadership. Topics include: foundational and emerging research on leadership, social identity, in-group and out-group categorization, obedience and conformity, and persuasion.

Prerequisites: LDR 100 or LDR 105 or PSY 105, and ENG 101 (minimum grade C for all)

**LDR 290 Leadership Capstone****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

Students complete a project that applies the knowledge and skills gained from previous Leadership courses and experiences.

Prerequisites: LDR 240 or MKT 220 (minimum grade C for both)

## LH

### Courses

**LH 105 Horticulture Occupations****1 Credit. 1 Lecture Hour. 1 Lab Hour.**

An introduction to horticulture occupations in the Cincinnati region. Topics include: job levels, working conditions, abilities needed, and benefits within the horticulture industries; resume preparation; interviewing; and business etiquette for the landscaping industry.

Prerequisites: None

**LH 110 Horticulture Science****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on plant classification, structures, physiology, and development, and the environmental conditions that affect plant growth.

Prerequisites: ENG 085 or appropriate placement

**LH 115 Floral Design and Marketing****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on concepts and techniques of floral design. Topics include: floral design styles, pricing, shop management, and specialized work such as weddings and funerals. Students must attend off-campus field trips.

Prerequisites: None

**LH 120 Soil Science and Plant Nutrition****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on physical, chemical, and biological properties of soils.

Topics include: soil formation; soil conservation; and properties of soils that affect plant growth, development, and health.

Prerequisites: ENG 085 or appropriate placement

**LH 125 Turfgrass Management****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and practices for management of turfgrass installations. Topics include: turfgrass identification, growth, uses, and establishment; and pest control. Students must attend field trips.

Prerequisites: MAT 093 or appropriate placement

**LH 130 Woody Plant Materials****3 Credits. 1 Lecture Hour. 5 Lab Hours.**

A course on woody plants grown by nurseries and found in the landscape and in naturalized settings of Ohio. Topics include: identifying the features and landscape uses of deciduous and evergreen trees, shrubs, and vines. Students must attend weekly plant walk field trips.

Prerequisites: ENG 085 or appropriate placement

**LH 135 Herbaceous Plant Materials****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on annual, biennial, and non-woody plants commonly used in landscapes of the greater Cincinnati region. Topics include: identification, culture, and design uses of plants for landscapes.

Prerequisites: ENG 085 or appropriate placement

**LH 140 Landscape Operations****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on equipment used for landscape activities such as planting trees and shrubs and maintaining landscaped areas. Topics include: job safety; and operations of equipment such as loaders, backhoes, tractors, and commercial mowers. Students must attend field trips.

Prerequisites: None

**LH 145 Horticulture Mechanics****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to the mechanical systems used in the landscape industry. Topics include small engine theory, operation, and repair; gasoline and diesel fuels; hydraulic power systems; and traditional and alternative electrical systems.

Prerequisites: None

**LH 151 Landscape Design 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on landscape development for residential and small commercial sites. Topics include: the design process, proper design development, and graphics and lettering. Students must provide their own drawing tools and must attend field trips.

Prerequisites: ENG 085 or appropriate placement

**LH 155 Computer-Aided Landscape Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for using computers in landscape design and contracting. Topics include: generating plot plans, planting plans, and presentation drawings.

Prerequisites: ENG 085 or appropriate placement

**LH 160 Irrigation Design, Installation, and Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on designing, installing, and managing residential and commercial irrigation systems. Students must participate in field work.

Prerequisites: LH 125 and LH 151 (minimum grade C for both)

**LH 165 Landscape Construction****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques and use of materials for constructing and installing landscape planting features and structures such as gardens, terraces, walls, fences, mounds, ponds, irrigation, and outdoor lighting. Students must participate in field work.

Prerequisites: LH 151 (minimum grade C)

**LH 170 From Field to Kitchen****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on edible plants, herbs, and spices and their use in culinary preparations.

Prerequisites: None

Instructor Consent Required

**LH 175 Interior Plantscaping****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the use of foliage and blooming plants to enhance interior areas of buildings. Topics include: classification, culture, and design applications.

Prerequisites: ENG 085 or appropriate placement

**LH 191 Part-Time Cooperative Education 1: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**LH 192 Part-Time Cooperative Education 2: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 191

**LH 193 Part-Time Cooperative Education 3: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 192

**LH 194 Part-Time Cooperative Education 4: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 194

**LH 195 Part-Time Cooperative Education 5: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 195

**LH 196 Part-Time Cooperative Education 6: Landscape Horticulture****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 195

**LH 205 Landscape Pests and Controls****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on identification, diagnosis, and control of common insect, disease, and weed pests in the landscape industry. Topics include: integrated pest management/plant health care principles, and Ohio Department of Agriculture Commercial CORE and Category 6d exams.

Prerequisites: LH 110 and LH 130 and LH 135 (minimum grade C for all)

**LH 210 Turfgrass Pests and Controls****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on identification, diagnosis, and control of common insect, disease, and weed pests of turfgrasses. Topics include: integrated pest management/plant health care principles, and Ohio Department of Agriculture Commercial CORE and Category 8 exams. Students must attend field trips.

Prerequisites: LH 110 and LH 125 (minimum grade C for both)

**LH 215 Arboriculture****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on principles and techniques of the commercial arboriculture business. Topics include: trees and the environment; protection, diagnosis, and treatment of tree health problems; techniques for pruning, removal, and climbing; and job safety. Students must attend field trips.

Prerequisites: LH 110 (minimum grade C)

**LH 225 Greenhouse Management and Plant Production****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on principles and practices for greenhouse management and plant production. Topics include: greenhouse structures and maintenance, and managing environmental conditions vital to plant growth. Students must attend field trips.

Prerequisites: LH 110 and LH 135 (minimum grade C for both)

**LH 230 Landscape Solutions to Stormwater Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on using landscaping to manage stormwater and water runoff. Topics include: the ecology, design, installation, and maintenance of water management and retention systems including bioswales, green roofs, and rain gardens. Students must attend field trips.

Prerequisites: LH 110 and LH 120 and LH 151 (minimum grade C for all)

**LH 240 Landscape Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on principles and practices of management used in the landscape industry. Topics include: seasonal planning for landscape maintenance, contracts and specifications, cost estimating, business management, and personnel management. Students must attend field trips.

Prerequisites: LH 110 and LH 120 and LH 130 (minimum grade C for all), and MAT 093 or appropriate placement

**LH 245 Plants for Sustainable Landscapes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on identification, culture, and uses of nursery-grown woody and herbaceous plants in Cincinnati-area sustainable landscapes. Topics include: using native species appropriately, and controlling invasive species. Students must attend weekly field trips.

Prerequisites: LH 130 and LH 135 and LH 151 (minimum grade C for all)

**LH 252 Landscape Design 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on application of design theory to develop creative solutions to landscape problems. Topics include: graphic skills such as section, elevation, isometric and perspective techniques; construction plans; interaction with clients; and sales presentations. Students must attend field trips.

Prerequisites: LH 130 and LH 140 and LH 151 (minimum grade C for all)

**LH 255 Golf Course and Athletic Field Management****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for golf course and athletic field management. Topics include: layout and construction, course/field management systems, maintenance, budgeting, record-keeping, golf-specific turf care, turfgrass selection and enhancement, practices for playability enhancement, field set-up, and renovation of existing fields. Students must attend field trips.

Prerequisites: LH 125 (minimum grade C) and instructor consent  
Instructor Consent Required

**LH 265 Landscape Grading, Drainage, and Surveying****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on landscape site preparation. Topics include: site assessment, establishing grades, soil conservation and improvement, surface and sub-surface drain systems, cut-and-fill calculations, and safe operation of equipment. Students must attend field trips.

Prerequisites: LH 151 (minimum grade C) and MAT 093 or appropriate placement

**LH 290 Sustainable Landscape Design Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students complete a project while examining the landscape designer's role in restoring and protecting habitats. Topics include: site choice, stormwater controls, xeriscaping, criteria for LEED and other certifications, and techniques for landscape features such as green roofs and rain gardens. Students must attend field trips.

Prerequisites: LH 151 and LH 155 and LH 230 and LH 245 (minimum grade C for all)

**LH 291 Full-Time Cooperative Education 1: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**LH 292 Full-Time Cooperative Education 2: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 291

**LH 293 Full-Time Cooperative Education 3: Landscape Horticulture****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: LH 292

# LIT

## Courses

### LIT 200 Introduction to Literature

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategies for critical reading and analysis of literature using a variety of interpretive approaches.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

### LIT 210 The Short Story

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Introduction to short fiction as a literary form, emphasizing critical reading and analysis. Works studied represent a variety of periods, styles, and cultures.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

### LIT 220 Poetry

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Introduction to poetry as a literary form, emphasizing critical reading and analysis. Poems studied represent a variety of periods, styles, and cultures.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

### LIT 230 Drama

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Introduction to drama as a literary form, emphasizing critical reading and analysis. Plays studied represent a variety of periods and styles. Out-of-class viewing of plays on video is required.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

### LIT 240 The Novel

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Introduction to the novel as a literary form, emphasizing critical reading and analysis. Works studied represent a variety of periods, styles, and cultures.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

### LIT 251 American Literature to 1865

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Chronological survey of the works of American authors from the colonial period to 1865 with discussion of the major historical and cultural issues of the times.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

### LIT 252 American Literature since 1865

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Chronological survey of the works of American authors from 1865 to present with discussion of the major historical and cultural issues of the times.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

### LIT 255 African American Literature

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of major themes and forms in writing by African American and Afro-Caribbean authors from slavery to the present.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

### LIT 261 British Literature: Medieval Period to 1800

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Chronological survey of major works of British literature from the Medieval period to 1800 with discussion of the major historical and cultural issues of the times.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

### LIT 262 British Literature: 1800 to Present

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Chronological survey of major works of British literature from the 1800s to present with discussion of the major historical and cultural issues of the times.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

### LIT 265 Shakespeare

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of six to eight of Shakespeare's best-known plays, emphasizing issues facing modern interpreters of these classic works. Students view at least two plays on video in class. Additional out-of-class viewing of plays on video is required.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

### LIT 270 Children's Literature

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Introduction to children's literature, emphasizing critical reading and analysis. Works studied represent a variety of genres, styles, and cultures.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

### LIT 280 Science Fiction

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Introduction to themes and forms in science fiction from the late 19th century to the present, emphasizing critical reading and analysis of varied works and their cultural and technological context.

Prerequisites: 6 credit hours of English Composition

Ohio Transfer Module Approved

### LIT 285 Women Writers

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of major themes and forms in women's writing from a variety of periods and cultures, beginning with the 18th century, and including American ethnic women.

Prerequisites: 6 credit hours of English composition

Ohio Transfer Module Approved

## MA

### Courses

**MA 100 Clinical Procedures for Medical Assistants**  
**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on concepts and skills for assisting the physician in a clinical office setting. Topics include: infection control, patient preparation and history taking, assisting with examinations, preparing and maintaining the examination room, and assisting in medical specialty procedures and tests.

Prerequisites: Medical Assisting Program Chair consent  
 Instructor Consent Required

**MA 109 Administrative Procedures, Coding, and Billing for Medical Assisting**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on administrative duties that may be performed by a Medical Assistant in a physician's office, receptionist area, or administrative area in a healthcare setting. Topics include: billing and coding procedures for the Medical Assistant.

Prerequisites: ENG 080 or appropriate placement  
 Instructor Consent Required

**MA 110 Medical Office Laboratory Procedures**  
**5 Credits. 3 Lecture Hours. 4 Lab Hours.**

A course on concepts and skills for acquisition of samples and assessment of various diagnostic evaluations. Topics include: using laboratory equipment; maintaining quality assurance and quality control; collecting specimens; and carrying out procedures including hematology, serology, urinalysis, and chemistry.

Prerequisites: BIO 111, MA 100, MA 105 (minimum grade C for all)

**MA 115 Pharmacology for Medical Assistants**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on clinical drug therapy in relation to the role of the medical assistant. Topics include: principles, terminology, modes of administration, and mechanisms of action of the major drug groups; drug interactions; and administration of various injection routes.

Prerequisites: BIO 111, MA 100, MA 105 (minimum grade C for all)

**MA 120 Medical Office Insurance Coding and Billing**  
**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on procedures and regulations related to bookkeeping, accounting, and insurance in the medical office setting. Topics include: using superbills; coding claims using CPT, ICD-9-CM, and HCPCS; electronic claims filing; and billing, collection, and reimbursement systems.

Prerequisites: MA 100, MA 105, MCH 100 (minimum grade C for all)

**MA 125 Externship and Seminar for Medical Assistants**  
**4 Credits. 2 Lecture Hours. 12 Lab Hours.**

Students practice administrative and clinical skills during an unpaid experience in an ambulatory care setting. Students also prepare for the AAMA exam to become a Certified Medical Assistant.

Prerequisites: MA 109 and MA 115 (minimum grade C for both)

## MAA

### Courses

**MAA 191 Part-Time Cooperative Education 1: Medical Administrative Assistant**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190

**MAA 192 Part-Time Cooperative Education 2: Medical Administrative Assistant**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MAA 191

**MAA 193 Part-Time Cooperative Education 3: Medical Administrative Assistant**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MAA 192

**MAA 194 Part-Time Cooperative Education 4: Medical Administrative Assistant**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**MAA 195 Part-Time Cooperative Education 5: Medical Administrative Assistant**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MAA 194

**MAA 196 Part-Time Cooperative Education 6: Medical Administrative Assistant**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MAA 195

**MAA 291 Full-Time Cooperative Education 1: Medical Administrative Assistant****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190

**MAA 292 Full-Time Cooperative Education 2: Medical Administrative Assistant****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MAA 291

**MAA 293 Full-Time Cooperative Education 3: Medical Administrative Assistant****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MAA 293

## MAT

### Courses

**MAT 093 Math Literacy****5 Credits. 5 Lecture Hours. 0 Lab Hour.**

A course that develops conceptual and procedural tools to support student use of key mathematical concepts in a variety of contexts. Topics include: numeracy, proportional reasoning, algebraic reasoning, and functions.

Prerequisites: Appropriate placement

**MAT 096 Beginning and Intermediate Algebra****5 Credits. 5 Lecture Hours. 0 Lab Hour.**

A course in intermediate algebra emphasizing real-world applications. Topics include: systems of linear equations; algebraic, graphic, and numerical representation; an introduction to functions; graphs of linear functions; solving linear equations and inequalities; exponents and radicals; factoring polynomials; solving quadratic, polynomial and radical equations; graphs of quadratic functions; and simplifying rational expressions.

Prerequisites: MAT 093 (minimum grade B) or appropriate placement

**MAT 105 Quantitative Reasoning****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that emphasizes numeracy, model-building, probability, and statistics in real-world contexts. Topics include proportional reasoning, linear and exponential modeling, descriptive statistics, personal finance, and using spreadsheets as a problem-solving tool. Students complete projects to apply course concepts.

Prerequisites: MAT 093 (minimum grade C) or appropriate placement  
Ohio Transfer Module Approved**MAT 105A Intensive Quantitative Reasoning****4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course that emphasizes numeracy, model-building, probability, and statistics in real-world contexts, with additional practice for understanding mathematical operations. Topics include proportional reasoning, linear and exponential modeling, descriptive statistics, personal finance, and using spreadsheets as a problem-solving tool. Students complete projects to apply course concepts.

Prerequisites: Appropriate math placement

Ohio Transfer Module Approved

**MAT 111 Business Mathematics****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An algebra-based course on practical applications of mathematics. Topics include: review of arithmetic, algebra, and percents; payroll; banking; taxes; insurance; financial math, and elementary statistics. Students need a scientific calculator.

Prerequisites: MAT 093 (minimum grade C) or appropriate placement

**MAT 115 Pre-Statistics****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on mathematical modeling of real data using curve fitting of functions. Topics include: modeling linear, linear systems, quadratic, exponential, and radical functions; and verifying the model using coefficient of determination and limitations of the model. Students need a graphing calculator.

Prerequisites: MAT 093 (minimum grade C) or appropriate placement

**MAT 122 Aviation Mathematics****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on technical applications of algebra, geometry, and statistics used by students in aviation-related studies. Topics include: simplifying algebraic expressions, solving equations (linear, quadratic, rational, and radical), graphing equations in two variables, inequalities, elementary statistics, right triangle trigonometry, and vectors. Students need a graphing calculator.

Prerequisites: MAT 093 (minimum grade C) or appropriate placement

**MAT 124 Applied Algebra and Geometry****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on applications of algebra, geometry, and trigonometry. Topics include: percents, measurement, unit conversions, scientific notation, simplifying algebraic expressions, solving equations (linear and quadratic), graphing equations, inequalities, plane and solid geometry, and right and oblique triangle trigonometry. Students need a graphing calculator.

Prerequisites: MAT 093 or appropriate placement

**MAT 125 Algebra and Trigonometry****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on applications of algebra, geometry, and trigonometry. Topics include: simplifying algebraic expressions, right and oblique triangles, and solving equations (linear, quadratic, rational, and trigonometric). Students need a graphing calculator.

Prerequisites: MAT 096 (minimum grade C) or MAT 120 (minimum grade A) or MAT 121 (minimum grade C) or appropriate placement

**MAT 126 Functions and Calculus****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of MAT 125. Topics include: functions (linear, exponential, logarithmic, trigonometric, polynomial, and rational), complex numbers, graphing, solving equations, and applications of differential and integral calculus. Students need a graphing calculator.

Prerequisites: MAT 125 (minimum grade C) or appropriate placement

**MAT 131 Statistics 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on descriptive and inferential statistics. Topics include: the purpose of statistics, univariate and bivariate descriptive statistics, probability, normality and sampling distributions, confidence intervals, and hypothesis testing.

Prerequisites: MAT 096 or MAT 105 or MAT 115 or MAT 124 or MAT 150 (minimum grade C for all), or appropriate placement

Ohio Transfer Module Approved

**MAT 132 Statistics 2****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of MAT 131. Topics include: confidence intervals and hypothesis tests for two-sample means and proportions, contingency tables, one-way analysis of variance, and multiple regression.

Prerequisites: MAT 131 (minimum grade C)

Ohio Transfer Module Approved

**MAT 151 College Algebra****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on concepts and applications of algebra. Topics include: representing linear, exponential, logarithmic, power, polynomial, and rational functions numerically, graphically, and algebraically. Students need a graphing calculator.

Prerequisites: MAT 096 (minimum grade C) or appropriate placement

Ohio Transfer Module Approved

**MAT 152 Trigonometry****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on concepts and applications of trigonometry. Topics include: trigonometric functions and identities, inverse of trigonometric functions, vectors, complex numbers, and parametric equations. Students need a graphing calculator.

Prerequisites: MAT 151 (minimum grade C) or appropriate placement

Ohio Transfer Module Approved

**MAT 153 Pre-Calculus****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A course on concepts and applications of pre-calculus. Topics include: review of linear, exponential, power, polynomial, and rational functions; trigonometric functions; trigonometry; vectors; complex numbers; and parametric equations. Students need a graphing calculator.

Prerequisites: MAT 096 (minimum grade B) or appropriate placement or instructor consent

Ohio Transfer Module Approved

**MAT 161 College Algebra for Diagnostic Medical Sonography****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on concepts and applications of algebra. Topics include: representing linear, exponential, logarithmic, power, polynomial, and rational functions numerically, graphically, and algebraically; and concepts of plane and solid geometry. Students need a graphing calculator.

Prerequisites: MAT 096 (minimum grade C) or appropriate placement

**MAT 215 Business Calculus****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A course on calculus emphasizing business applications. Topics include: analysis of functions using limits, the derivative and derivative function, rules of differentiation, applications of derivative calculus, and the definite integral. Students need a graphing calculator.

Prerequisites: MAT 151 (minimum grade C)

Ohio Transfer Module Approved

**MAT 251 Calculus 1****5 Credits. 5 Lecture Hours. 0 Lab Hour.**

A course on concepts and applications of calculus. Topics include: the library of functions, analysis of functions with limits, the derivative and the derivative function, interpretations of the derivative, rules of differentiation, and introduction to integral calculus. Students need a graphing calculator.

Prerequisites: MAT 126 or MAT 152 or MAT 153 (minimum C grade) or appropriate placement

Ohio Transfer Module Approved

**MAT 252 Calculus 2****5 Credits. 5 Lecture Hours. 0 Lab Hour.**

A continuation of MAT 251. Topics include: methods of integration (substitution, parts, tables, numerical and CAS) with modeling applications, sequences and series, Taylor series approximations, and solutions to differential equations. Students need a graphing calculator.

Prerequisites: MAT 251 (minimum grade C) or appropriate placement

Ohio Transfer Module Approved

**MAT 253 Calculus 3****5 Credits. 5 Lecture Hours. 0 Lab Hour.**

A continuation of MAT 252. Topics include: vectors and vector-valued functions; functions of several variables; partial derivatives and directional derivatives with gradients; tangent planes and local linearization; and optimization methods with Lagrange multipliers, iterated integration, and calculus of vector fields. Students need a graphing calculator.

Prerequisites: MAT 252 (minimum grade C) or appropriate placement

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**MAT 260 Elementary Differential Equations****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

An introduction to topics involving ordinary differential equations.

Topics include: solutions to and applications of first-order and linear higher-order differential equations, series solutions near ordinary and regular singular points, and Laplace transforms.

Prerequisites: MAT 252 (minimum grade C)

## MCH

### Courses

**MCH 100 Healthcare Informatics****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on technology used in the healthcare delivery system and electronic health records (EHR) management. Topics include: hardware, software, user interfaces, telecommunications and networks, and health management information systems.

Prerequisites: IM 105 or 20 wpm keyboarding speed

**MCH 101 Medical Terminology 1****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the basic structure of medical words and abbreviations. Topics include: prefixes, suffixes, word roots, combining forms, and singulars and plurals.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Assurance Guide Approved



**MCH 102 Medical Terminology 2****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of MCH 101. Topics include: defining, pronouncing, and spelling medical terms using prefixes, suffixes, roots, and combined forms.

Prerequisites: MCH 101 (minimum grade C)  
Ohio Transfer Assurance Guide Approved

**MCH 104 Comprehensive Medical Terminology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A comprehensive study of medical terminology. Topics include: prefixes, suffixes, word roots, combining forms, singulars and plurals, and abbreviations associated with medical specialties.

Prerequisites: ENG 085 or appropriate placement  
Ohio Transfer Assurance Guide Approved

**MCH 106 Health and Wellness Promotion****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on promoting health and wellness issues to the public. Topics include: self-empowerment, stress reduction, physical fitness, healthy eating, addiction avoidance, identifying and reducing risk factors in disease, and alternative therapies.

Prerequisites: None

**MCH 108 Professionalism in Healthcare****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professional standards applicable in healthcare settings. Topics include: communication skills, employability skills, healthcare teams, diversity, career planning, and professional development.

Prerequisites: ENG 080 or appropriate placement

**MCH 110 Orientation to Health Records****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the content and format of health records. Topics include: standard forms, legal issues related to health records, maintaining health records, and filing and retrieving diagnostic reports.

Prerequisites: MCH 101 (minimum grade C), and IM 105 or appropriate keyboarding score

**MCH 112 Issues in Health Economics****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on current trends and concerns related to the economics of health care systems. Topics include: economic differences between medical care and other commodities.

Prerequisites: None

**MCH 114 Law and Ethics for Healthcare****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of medical jurisprudence and essentials of professional behavior in healthcare. Topics include: medical ethics, legal concerns in healthcare, and the healthcare provider's role as an agent of the physician.

Prerequisites: ENG 085 or appropriate placement

**MCH 116 Cultural Competency for Health and Public Safety Professions****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the influences of race, culture, and ethnicity in shaping values, belief systems, and behaviors of Health and Public Safety professionals and patients/clients.

Prerequisites: ENG 085 or appropriate placement

**MCH 118 Quality Improvement in Healthcare****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on quality improvement in healthcare, focused on patient-centered care. Topics include: organizations responsible for healthcare accreditation and regulation, healthcare provider departments that address regulations, and trends affecting delivery of quality healthcare services.

Prerequisites: ENG 085 or appropriate placement

**MCH 120 Health Unit Coordinator Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on skills required for entry-level medical clerical workers. Topics include: patient charts, transcribing nursing treatment, using computer software, medication, respiratory and physical therapy orders, X-ray and MRI scan procedures, nuclear medicine, ultrasound, and endoscopy.

Prerequisites: MCH 101 or MCH 104 (minimum grade C for either)

**MCH 130 Nurse Aide Training****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on caring for the elderly in long-term care facilities. Topics include: communication skills, mental health and social service needs, resident rights, activities of daily living, safety, and restorative services. Students who complete the course at 80% or above are qualified to take the Ohio Department of Health Competency Evaluation Test for a State Tested Nurse Aide (STNA).

Prerequisites: None  
Instructor Consent Required

**MCH 132 Patient Care Assistant Training****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course that prepares students for employment in acute care facilities as nursing assistive personnel. Topics include: role definition/classification, communication, basic anatomy/physiology concepts with associated observations, overview of nutrition/diet therapy, introduction to common pathologies, and commonly delegated skills.

Prerequisites: ENG 085 or appropriate placement, and MCH 130, and on State Nurse Aide Registry or eligible for Registry  
Instructor Consent Required

**MCH 134 Medication Aide Training****6 Credits. 4 Lecture Hours. 4 Lab Hours.**

A course that prepares students to distribute medications in long-term care and residential care facilities, through a minimum of 80 hours of lecture and laboratory practice and 40 hours of clinical experience.

Prerequisites: MCH 130, and on State Nurse Aide Registry or have one year of experience in a residential care setting  
Instructor Consent Required

**MCH 136 Restorative Aide Training****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on rehabilitation services used to return individuals to optimal mobility and functioning following various conditions. Topics include: lifting, moving, and ambulation procedures; care of individuals with musculoskeletal, neurological, and integumentary conditions; and restorative approaches to meeting nutrition, hydration, and personal care needs.

Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry  
Instructor Consent Required

**MCH 138 Patient Care Skills****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on fundamental health care concepts and skills for students planning a career in healthcare. Topics include: basic body mechanics, patient draping techniques, infection control techniques, oxygen therapy, and problem solving techniques.

Prerequisites: None

**MCH 141 Electrocardiography 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on basic principles of electrocardiography. Topics include: the electrical conductive system of the heart, patient preparation, setting up the ECG machine, and recognizing and correcting distortion problems.

Prerequisites: BIO 100 or BIO 111 or BIO 151 (minimum grade C for all)

**MCH 142 Electrocardiography 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of MCH 141, including review of basic electrocardiography and 12 lead ECG interpretation. Topics include: cardiac electrophysiology, recognizing common dysrhythmia and advanced cardiac dysrhythmias, chamber enlargement, pacemakers, myocardial ischemia, injury, infarct patterns, and effects of drugs and electrolytes on the ECG.

Prerequisites: MCH 141 (minimum grade C), or certification in EMT, Paramedic, Nursing, or Practical Nursing

## MET

### Courses

**MET 100 Introduction to Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

An orientation to the Mechanical Engineering Technology program and the profession. Topics include: computers and software used in the profession, career opportunities, professional skills, and preparation for cooperative education.

Prerequisites: ENG 085 and MAT 124, or appropriate placements

**MET 111 Manufacturing Processes 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to machining and fabrication. Topics include: measuring techniques, manual and computer numerical controlled metal removal processes, machine operations, and materials considerations.

Prerequisites: ENG 085 and MAT 124, or appropriate placements  
Ohio Transfer Assurance Guide Approved**MET 112 Manufacturing Processes 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of MET 111. Topics include: CNC programming of complex parts on two-axis mills and lathes, and CNC control.

Prerequisites: MET 111 (minimum grade C), and MET 131, and MAT 124 or MAT 125, or appropriate placement

**MET 113 Manufacturing Processes 3****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of MET 112. Topics include: CAM simulation, machining processes, prototyping techniques, and using CAD/CAM software to create programs for producing components on CNC machines.

Prerequisites: MET 112 (minimum grade C)

**MET 131 MET Computer Aided Drafting 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to mechanical drafting and computer aided drafting. Topics include: geometric construction, orthographic projection, dimensioning, section views, and auxiliary views.

Prerequisites: ENG 085 and MAT 124, or appropriate placements  
Ohio Transfer Assurance Guide Approved**MET 132 MET Computer Aided Drafting 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of MET 131. Topics include: 3D modeling, geometric dimensioning and tolerancing, and creating assembly models.

Prerequisites: MET 131 (minimum grade C)  
Ohio Transfer Assurance Guide Approved**MET 140 Engineering Materials****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the materials used in designing and manufacturing machinery and products. Topics include: steel and non-ferrous metals, polymers, ceramics, and composites. Students use the materials testing laboratory to study physical and mechanical properties of materials.

Prerequisites: MET 111 and MAT 124, or appropriate placement  
Ohio Transfer Assurance Guide Approved**MET 150 Statics and Strength of Materials for MET****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on analyzing forces that occur within machine and structural elements subjected to various types of loads. Topics include: vector analysis, free body diagrams, individual stresses, and combined stresses.

Prerequisites: MAT 124 or MAT 125 or appropriate placement

**MET 191 Part-Time Cooperative Education 1: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 100

**MET 192 Part-Time Cooperative Education 2: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 191

**MET 193 Part-Time Cooperative Education 3: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 192

**MET 194 Part-Time Cooperative Education 4: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 193

**MET 195 Part-Time Cooperative Education 5: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 194

**MET 196 Part-Time Cooperative Education 6: Mechanical Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 195

**MET 215 Advanced and Additive Manufacturing****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on innovative manufacturing techniques and tools used in industry today. Topics include additive manufacturing, rapid prototyping, laser scanning, laser cutting, and reverse engineering.  
Prerequisites: MET 112 and MET 132

**MET 230 Quality Control and Six Sigma****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on modern quality methods used in manufacturing. Topics include: data collection, statistical process control, continuous improvement, and the reduction of product defects through the six-sigma process.  
Prerequisites: MET 150

**MET 240 Hydraulics and Pneumatics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applied fluid power systems. Topics include: fluid transport, power systems components and circuits, relay logic, and ladder diagrams. Students design, build, and operate hydraulic and pneumatic circuits in the laboratory.  
Prerequisites: MET 150

**MET 250 Machine Design****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on applying principles of engineering mechanics and strength of materials to the analysis and selection of mechanical components. Topics include: combined stresses, failure theories, shaft components, shaft design, and fasteners.  
Prerequisites: MET 140 and MET 150 (minimum grade C for both)

**MET 260 Applied Thermodynamics****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course in the engineering study of energy. Topics include: first and second laws of thermodynamics, general energy equation, Mollier diagrams, ideal cycles, steam generation and turbines, and refrigeration.  
Prerequisites: MET 150 and MAT 124, or appropriate placement

**MET 270 Kinematics****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on analyzing mechanisms. Topics include: linear and angular displacement, velocity, acceleration, mass moment of inertia, and dynamic balance. Students use computer simulation software to analyze machine motions and forces.  
Prerequisites: MET 150 and PHY 151

**MET 285 Mechanical Engineering Technology Capstone Project 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Students participate in a team design project. Topics include: feasibility study, design concepts, detail and assembly drawings, bill of materials, commercial and fabricated parts, vendors, costs, and manufacturing.  
Prerequisites: MET 111 and MET 132 and MET 140 and MET 150 (minimum grade C for all)

**MET 290 Mechanical Engineering Technology Capstone Project 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of MET 285. Students manufacture, assemble, and test the product designed in MET 285, and prepare a presentation on the complete design process.  
Prerequisites: MET 285

**MET 291 Full-Time Cooperative Education 1: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 100

**MET 292 Full-Time Cooperative Education 2: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 291

**MET 293 Full-Time Cooperative Education 3: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 292

**MET 294 Internship 1: Mechanical Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: MET 100

**MET 295 Internship 2: Mechanical Engineering Technology**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MET 294

## MGT

### Courses

**MGT 101 Principles of Management**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the history and fundamental concepts of modern management. Topics include: planning, leading, organizing and controlling; global and domestic environments for management; change management; quality management; team management; and communication skills for managers.

Prerequisites: ENG 080 or appropriate placement

Ohio Transfer Assurance Guide Approved

**MGT 105 Human Resource Management**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of the human resource department and the supervisor's role in various human resource functions. Topics include: recruiting, choosing, and training employees; compensation and benefits; performance evaluation; disciplinary actions; and workplace rights and responsibilities.

Prerequisites: None

**MGT 120 Entrepreneurship**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on starting and growing new businesses. Topics include: identifying new venture opportunities, evaluating the viability of a new venture, and understanding skills needed for successful business operations. Students prepare a business plan for potential investor review.

Prerequisites: ACC 101

**MGT 125 Business Ethics**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles of business ethics and moral reasoning. Topics include: corporate disclosure, discrimination, whistle blowing, computer crime, and international ethics.

Prerequisites: None

**MGT 130 Project Management**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to project management in various industries. Topics include: planning and prioritizing projects, obtaining project approvals, working with diverse teams, managing all elements of projects, evaluating project results, and using Microsoft Project software.

Prerequisites: None

**MGT 131 Project Management Professional Certification Review**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of project management in various industries. Topics include: planning and prioritizing projects, obtaining project approvals, working with diverse teams, managing all elements of projects, evaluating project results, and using Microsoft Project software. This course satisfies the education requirement to sit for the PMP (Project Management Professional) exam.

Prerequisites: None

**MGT 140 Quality Management**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques of quality management and continuous improvement for manufacturing and service organizations. Topics include: establishing a customer driven organization, and using effective feedback and control systems.

Prerequisites: MGT 100 or MGT 101

**MGT 191 Part-Time Cooperative Education 1: Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**MGT 192 Part-Time Cooperative Education 2: Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 191

**MGT 193 Part-Time Cooperative Education 3: Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 192

**MGT 194 Part-Time Cooperative Education 4: Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 193

**MGT 195 Part-Time Cooperative Education 5: Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 194

**MGT 196 Part-Time Cooperative Education 6: Management**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 195

**MGT 220 Leadership****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of successful integrative leaders in organizations. Topics include: historical and contemporary approaches to leadership, leadership for change, team leadership, servant leadership, and communication skills for leaders.

Prerequisites: MGT 100 or MGT 101

**MGT 290 Business Management Capstone****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course that examines the entire scope of management, including functional and decision making areas such as production, marketing, finance, and accounting.

Prerequisites: MGT 101 and MKT 101 and ACC 101

**MGT 291 Full-Time Cooperative Education 1: Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**MGT 292 Full-Time Cooperative Education 2: Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 291

**MGT 293 Full-Time Cooperative Education 3: Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MGT 292

## MID

### Courses

**MID 100 Multimedia Information Design Career Exploration Seminar****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using research and personal reflection to develop a strong foundation for selecting an academic program/major and planning a career related to Multimedia Information Design. Topics include: analyzing interests, abilities, and values; reviewing academic and personal requirements for related programs/majors; and examining career outcomes including salary, job availability, advancement opportunities, and other factors.

Prerequisites: None

**MID 110 Digital Media Concepts****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to operating systems, software, hardware, and peripheral equipment used to create, revise, and produce content for multimedia products.

Prerequisites: ENG 085 or appropriate placement

**MID 120 Drawing Fundamentals for Multimedia Information Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental drawing techniques used in multimedia fields. Topics include: sketching, 3-D drawing, conceptual drawing, and architectural drawing.

Prerequisites: None

**MID 125 Storyboarding****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on fundamentals of storyboarding for video, animation, multimedia, and web. Topics include: traditional drawing and digital illustration, image acquisition and composition, shot framing and description, and industry standards for labeling.

Prerequisites: None

**MID 190 Career Preparation: Multimedia Information Design****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on career planning for students seeking employment in Multimedia Information Design fields. Topics include: self-assessment, career research, resume development, interview skills and job hunting strategies, and cooperative education policies and procedures.

Prerequisites: ART 125 or AVP 100 (minimum grade C for both)

## MKT

### Courses

**MKT 101 Principles of Marketing****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on marketing activities, strategies, and decision making in the context of other business functions.

Prerequisites: None

Corequisites: ECO 105: Principles of Microeconomics

Ohio Transfer Assurance Guide Approved

**MKT 105 Marketing and Customer Relations****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of marketing and development of business systems that provide positive and memorable customer experiences.

Prerequisites: None

**MKT 115 Marketing Research for Multimedia Profes****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to marketing fundamentals applied by professionals in multimedia fields. Topics include: marketing terminology; concepts and strategies used to create consumer relationships and deliver value through goods and services; and research techniques for collecting, analyzing, and interpreting data used to develop effective marketing strategies and communications.

Prerequisites: None

**MKT 130 Professional Selling****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professional sales skills, including business-to-consumer and business-to-business sales using a consultative approach. Topics include: prospecting, sales pre-planning, writing sales proposals, delivering sales presentations, preventing and handling objections, negotiations, closing the sale, post-sales service, and customer relations management (CRM) systems.

Prerequisites: None

**MKT 161 Branding and Product Development****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on branding trends and practices, focusing on entrepreneurial and small business owner perspectives. Topics include: applying branding principles to develop successful new products, identifying opportunities, generating and evaluating concepts, designing the product, and launching the product and brand identity. The course is delivered in a 5-week schedule.

Prerequisites: MKT 101 or MKT 105 or MKT 115

**MKT 162 Sales Promotion****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on sales promotion practices. Topics include: the role of sales promotion in the marketing plan and media mix; consumer and business-to-business sales methods; vendor analysis and selection; price promotions, point-of-purchase promotions, and joint promotions; and vouchers, gift cards, premiums, prizes, sampling, contests, and sweepstakes. The course is delivered in a 5-week schedule.

Prerequisites: MKT 101 or MKT 105 or MKT 115

**MKT 163 Services and Non-Profit Marketing****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on characteristics of non-profit organizations and service-oriented businesses and their target customers. Topics include: technology used for fund-raising, market services, customer communications, and integration of consistent internal and external brand messages. The course is delivered in a 5-week schedule.

Prerequisites: MKT 101 or MKT 105 or MKT 115

**MKT 164 Social Media and Consumer Engagement****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on using social media networks to increase brand awareness and consumer engagement for products, services and ideas. Topics include: understanding consumer mindsets on social networks such as Facebook and Twitter, and developing effective marketing communication through social media. The course is delivered in a 5-week schedule.

Prerequisites: MKT 101 or MKT 105 or MKT 115

**MKT 191 Part-Time Cooperative Education 1: Marketing****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**MKT 192 Part-Time Cooperative Education 2: Marketing****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MKT 191

**MKT 193 Part-Time Cooperative Education 3: Marketing****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MKT 192

**MKT 194 Part-Time Cooperative Education 4: Marketing****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MKT 193

**MKT 195 Part-Time Cooperative Education 5: Marketing****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MKT 194

**MKT 196 Part-Time Cooperative Education 6: Marketing****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MKT 195

**MKT 205 Marketing Research****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to marketing research emphasizing use of research data in marketing and management decisions. Topics include: designing a market research study, using data collection and measurement tools, performing data analyses, using online and social media tools, and communicating research findings.

Prerequisites: MKT 101

**MKT 215 Advertising and Public Relations****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques used in public relations, advertising, and other promotional methods. Topics include: consumer behavior, agency and client relationships, integrated marketing communications, developing and executing creative strategy, and selecting appropriate media for advertising effectiveness.

Prerequisites: MKT 101 or MKT 105 or MKT 115

**MKT 231 Direct and Database Marketing****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on direct marketing practices. Topics include: direct marketing as a component of company marketing strategies; response techniques for direct mail, catalogs, TV/radio, internet, display, and classified advertising; database creation; copy testing; and list evaluation. The course is delivered in a 5-week schedule.

Prerequisites: MKT 101 or MKT 105 or MKT 115

**MKT 232 Integrated Marketing Communications****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on using integrated marketing communications (IMC) to manage and coordinate an organization's advertising, public relations, sales promotion, and personal selling efforts. Topics include: IMC planning, agency operations, defining target audiences, setting and allocating budgets, implementing advertising, selecting advertising media, and evaluating IMC. The course is delivered in a 5-week schedule.

Prerequisites: MKT 215

**MKT 233 Sales Management****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on sales management practices. Topics include: recruiting, hiring, motivating, and evaluating salespeople; developing a sales training program; compensation models; budgets and sales forecasting; time and territory management; and ethical and legal responsibilities of sales managers. The course is delivered in a 5-week schedule.

Prerequisites: MKT 130

**MKT 250 Digital Marketing and Social Media****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theory and practice of digital marketing. Topics include: search engine marketing (SEM), search engine optimization (SEO), paid search and pay-per-click advertising (PPC), online display advertising, digital analytics, e-mail marketing, e-commerce, and social media and mobile marketing.

Prerequisites: MKT 101 or MKT 105 or MKT 115

**MKT 291 Full-Time Cooperative Education 1: Marketing****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**MKT 292 Full-Time Cooperative Education 2: Marketing****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MKT 291

**MKT 293 Full-Time Cooperative Education 3: Marketing****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MKT 292

**MLT****Courses****MLT 100 Introduction to Medical Laboratory Analysis****5 Credits. 3 Lecture Hours. 6 Lab Hours.**

A course on equipment and processes of the clinical laboratory and the responsibilities of the Medical Laboratory Technician. Topics include pipetting; spectrophotometry; safety; point of care testing; and the chemical, physical, and microscopic analysis of urine.

Prerequisites: CHE 115 and MAT 151 and MLT Program Chair consent

Instructor Consent Required

**MLT 121 Hematology and Hemostasis 1****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on theory and practice of normal hematology and hemostasis. Topics include: hematopoiesis, cell and platelet counts, cell identification, and prothrombin and partial prothrombin times.

Prerequisites: CHE 115 and MAT 151 and MLT Program Chair consent

Instructor Consent Required

**MLT 122 Hematology and Hemostasis 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of MLT 121. Topics include: hematopoiesis and abnormal cell identification, red cell abnormalities, anemias, leukemias, and coagulopathies.

Prerequisites: MLT 121

**MLT 140 Clinical Chemistry****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on principles and procedures used in the chemical analysis of clinical specimens. Topics include: manual and automated chemical testing, quality control, and clinical correlations.

Prerequisites: MLT 100 and MLT 121

**MLT 170 Instrumentation for Medical Laboratory Technicians****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A course on principles and procedures for instrumentation used in hematology, hemostasis, urinalysis and clinical chemistry. Topics include: set-up, operation, routine maintenance and quality control procedures for spectrophotometers, particle counters, electrodes, and other automated analyzers.

Prerequisites: MLT 100 and MLT 121

**MLT 180 Phlebotomy Techniques and Practice for Medical****Laboratory Technicians****2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on theory and practice of blood collection used by medical laboratory technicians. Topics include: devices and methods, specimen integrity, communication, and professionalism. Students who develop the necessary skills also practice supervised blood collection at a clinical site.

Prerequisites: MLT 100 and MLT 121

**MLT 181 Phlebotomy Techniques for MLT****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A two-week course on the equipment and techniques used to collect quality specimens for analysis. Topics include: communication with patients and staff, professional conduct, and daily practice of techniques using a model arm.

Prerequisites: MLT 122 and MLT 140

**MLT 185 Clinical Laboratory Practice****6 Credits. 0 Lecture Hour. 30 Lab Hours.**

Students apply skills in clinical chemistry, hematology, hemostasis, and urinalysis through on-campus laboratory practice. Students who develop the necessary skills also participate in an internship in these departments at a clinical site.

Prerequisites: MLT 140 and MLT 180

**MLT 186 Hematology and Hemostasis Applications****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Students apply skills in hematology and hemostasis in an on-campus laboratory, performing tasks independently as part of a simulated lab setting. Students must adhere to HPS and MLT Clinical Practice Standards.

Prerequisites: MLT 122 and MLT 170

**MLT 187 Clinical Chemistry and Urinalysis Applic****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Students apply skills in clinical chemistry and urinalysis in an on-campus laboratory, performing tasks independently in a simulated lab setting. Students must adhere to HPS and MLT Clinical Practice Standards.

Prerequisites: MLT 122 and MLT 170

**MLT 191 Part-Time Cooperative Education 1: Medical Laboratory Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MLT 185 (minimum grade C)

**MLT 192 Part-Time Cooperative Education 2: Medical Laboratory Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MLT 191 (minimum grade C)

**MLT 210 Clinical Immunology and Serology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the function of the immune system, and immunological and serological testing methods performed in clinical laboratories. Topics include: humoral and cell mediated immunity, hypersensitivity, infectious agents, enzyme immunoassay, immunoelectrophoresis, and basic molecular testing.

Prerequisites: MLT 295

Corequisites: MLT 261 : Clinical Microbiology

**MLT 250 Immunohematology****5 Credits. 3 Lecture Hours. 6 Lab Hours.**

A course on theory and application of immunohematology procedures used in the clinical laboratory. Topics include: ABO and Rh, antibody screens and antibody identification, compatibility, enhancement techniques, and automated procedures.

Prerequisites: MLT 185

**MLT 251 Immunohematology****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on the theory of immunohematology, emphasizing laboratory techniques. Topics include: ABO and Rh, antibody screens and identification, compatibility, enhancement techniques, and donor requirements.

Prerequisites: MLT 210

**MLT 252 Immunohematology Applications****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A four-week course with students completing immunohematology procedures in an on-campus simulated laboratory setting. Students must adhere to HPS and MLT Clinical Practice Standards.

Prerequisites: MLT 251

**MLT 255 Clinical Microbiology with Applications****6 Credits. 3 Lecture Hours. 9 Lab Hours.**

A course on the theory and practice of clinical microbiology. Topics include: clinical significance and identification and antimicrobial susceptibility of pathogenic bacteria with introduction to other microorganisms. The course includes a two-week applications component performing clinical bacteriology procedures in an on-campus simulated laboratory setting. Students must successfully complete the theory course component in order to continue with the applications component.

Prerequisites: MLT 295

Corequisites: MLT 210: Clinical Immunology and Serology

**MLT 260 Clinical Microbiology****6 Credits. 3 Lecture Hours. 9 Lab Hours.**

A course on theory and application of procedures for clinical microbiology. Topics include: identification, antimicrobial susceptibility and clinical significance of bacteria; basic mycobacteriology; mycology; parasitology; and virology.

Prerequisites: MLT 250

**MLT 261 Clinical Microbiology****5 Credits. 2 Lecture Hours. 9 Lab Hours.**

A course on the theory and practice of clinical microbiology. Topics include: clinical significance, identification and antimicrobial susceptibility of pathogenic bacteria with introduction to other microorganisms.

Prerequisites: MLT 295

Corequisites: MLT 210: Clinical Immunology and Serology

**MLT 262 Clinical Microbiology Applications****1 Credit. 0 Lecture Hour. 1 Lab Hour.**

A two-week course with students completing clinical bacteriology procedures in an on-campus simulated laboratory setting. Students must adhere to HPS and MLT Clinical Practice Standards.

Prerequisites: MLT 261

**MLT 265 Immunohematology with Applications****5 Credits. 2 Lecture Hours. 9 Lab Hours.**

A course on the theory and practice of immunohematology, focusing on ABO/Rh typing procedures, antibody detection and identification techniques, and compatibility testing. Other topics include: hemolytic disease of the newborn, blood donor program regulations component therapy, transfusion reaction investigation, quality control, and problem solving. The course includes a two-week applications component performing immunohematology procedures in an on-campus simulated laboratory setting. Students must successfully complete the theory course component in order to continue with the applications component.

Prerequisites: MLT 210

Corequisites: MLT 270: Medical Laboratory Seminar

**MLT 270 Medical Laboratory Seminar****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Students review theories and procedures of medical laboratory technology to prepare for the certification exam. Topics include: laboratory operations, hematology, hemostasis, clinical chemistry, immunology, immunohematology, clinical microbiology, and test-taking strategies.

Prerequisites: MLT 210 and MLT 250 (minimum grade C for both)



**MLT 294 MLT Internship: Specimen Collection****1 Credit. 0 Lecture Hour. 4 Lab Hours.**

Students participate in specimen collection at an area laboratory or collection site, with emphasis on phlebotomy. Activities may include specimen processing. Students must adhere to HPS and MLT Clinical Practice Standards.

Prerequisites: MLT 181

**MLT 295 MLT Clinical Internship****1 Credit. 0 Lecture Hour. 20 Lab Hours.**

Students are assigned to a medical laboratory for full-time experience in hematology, hemostasis, clinical chemistry and urinalysis. Students must adhere to HPS and MLT Clinical Practice Standards.

Prerequisites: MLT 186 and MLT 187

# MMC

## Courses

**MMC 100 Introduction to Mechanical Systems****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on mechanical systems found in a manufacturing facility. Topics include: mechanical power transmissions, bearings and shafts, lubrication, pumps and compressors, fluid power, and piping systems.

Prerequisites: None

**MMC 105 Shop Math****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that reviews basic mathematical skills used in the maintenance trades. Topics include: decimals, fractions, percents, ratios, proportions, roots, and powers; basic algebra; and basic trigonometry.

Prerequisites: None

**MMC 110 MSSC Certified Production Technician Training****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A course that addresses core competencies for production workers as defined by the Manufacturing Skills Standards Council. Students who complete the course successfully earn the MSSC Certified Production Technician credential.

Prerequisites: Admitted to MSSC Training Program  
Instructor Consent Required**MMC 111 MSSC Certified Logistics Associate Trainee****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that addresses core competencies for production workers whose job activities involve basic areas of logistics, as defined by the Manufacturing Skills Standards Council. Students who complete the course successfully earn the MSSC Certified Logistics Associate credential.

Prerequisites: Admitted to MSSC Training Program  
Instructor Consent Required**MMC 112 MSSC Certified Logistics Technician Trainee****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that addresses core competencies for production workers whose job activities involve advanced areas of logistics, as defined by the Manufacturing Skills Standards Council. Students who complete the course successfully earn the MSSC Certified Logistics Technician credential.

Prerequisites: MMC 111  
Instructor Consent Required**MMC 115 Print Reading and Measurement Tools****1.5 Credit. 1 Lecture Hour. 0.5 Lab Hour.**

A course on reading and understanding mechanical prints and using precision mechanical measuring tools.

Prerequisites: None

**MMC 117 Tools, Machines, and Fabrication****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on the application and operation of hand tools, power tools, machine tools and other tools used in fabrication.

Prerequisites: None

**MMC 118 Industrial Piping Systems****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on types and applications of industrial pipe systems. Topics include: sizing, identifying, and installing piping, fittings, and valves; and using systems including iron pipe, steel tubing, hydraulic hose, plastic pipe, and copper tubing.

Prerequisites: None

**MMC 120 Pneumatic Systems 1****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on fundamental principles and techniques of pneumatics.

Topics include: maintenance, field repairs, and troubleshooting of pneumatic systems.

Prerequisites: None

**MMC 125 Pneumatic Systems 2****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of MMC 120 that provides additional understanding and practice in maintenance, field repairs, and troubleshooting of pneumatic systems.

Prerequisites: MMC 120

**MMC 127 Rigging and Lifting****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on fundamental skills and applications for rigging, stressing inspection and safety. Topics include: industrial knots, rigging calculations, hand signals, gear selection, overhead crane operation, and lift operation.

Prerequisites: None

**MMC 130 Hydraulic Systems 1****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on fundamental principles and techniques of industrial hydraulics. Topics include: fluid conductors, seals, basic hydraulic symbols, construction, and operation and use of hydraulic pumps.

Prerequisites: None

**MMC 135 Hydraulic Systems 2****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of MMC 130. Topics include: construction, operation, pressure controls, directional controls, flow controls, actuators, cartridge valves, stack valves, accumulators, heat exchangers, flow meters, and gauges.

Prerequisites: MMC 130

**MMC 140 Mechanical Drive Systems****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on fundamentals of mechanical transmission systems used in industrial applications. Topics include: operation, installation, performance analysis, and design of basic mechanical transmission systems; and using chains, v-belts, spur gears, bearings, and couplings.

Prerequisites: None

**MMC 145 Preventive Maintenance for Mechanical Systems****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on concepts and methods for preventive maintenance, emphasizing vibration measurement and monitoring. Topics include: vibration analysis; tests, measurements, and adjustments; and parts replacement performed to prevent faults from occurring.

Prerequisites: None

**MMC 147 Machine Leveling and Alignment****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on industrial equipment leveling and alignment procedures. Topics include: alignment instruments and tools, shaft runout, sofffoot, piping strain, foundations, and anchor systems.

Prerequisites: None

**MMC 150 Bearings, Seals, and Lubrication****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course on how to operate, install, analyze, troubleshoot, and select bearings, seals, and lubrication for mechanical systems.

Prerequisites: None

**MMC 160 Industrial Pump Maintenance****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course on fundamentals of selecting, installing, and troubleshooting industrial centrifugal pumps. Topics include: pump operation, pressure/flow characteristics, performance and efficiency, cavitation, seals, sizing, and maintenance.

Prerequisites: None

**MMC 170 Jet Engine Teardown****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

Jet Engine Teardown School (JETS) covers commercial jet design, components, and operating principles. Students tear down a commercial jet engine and fire up a working commercial jet engine.

Prerequisites: None

**MMC 180 Machining Processes****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course on interpreting engineering part drawings, determining the sequence of machining operations, selecting tooling, and preparing plans for machining and inspection to confirm that parts meet the requirements of the drawings.

Prerequisites: None

# MUS

## Courses

**MUS 100 Musical Concepts****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to the fundamentals of music. Topics include: basic musical theory, melody, harmony, rhythm, notation, and ear training and note reading using popular and familiar tunes.

Prerequisites: None

**MUS 101 Music History: Middle Ages to Late 19th Century****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Survey of major periods in Western musical history from the Middle Ages to the late 19th century. Topics include: major composers and development of perceptive listening habits through analysis of compositional styles and techniques.

Prerequisites: None

Ohio Transfer Module Approved

**MUS 102 Music History: 20th Century****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Survey of major genres in Western music from the late 19th century through the 20th century. Topics include: symphony, opera, art song, musical theater, jazz, and popular music. This course emphasizes the study of music through the development of perceptive listening habits.

Prerequisites: None

Ohio Transfer Module Approved

**MUS 105 Music History: African-American Music****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on evolution of African-American musical genres and their cultural and historical perspectives, from the beginning of slavery in America to the present.

Prerequisites: None

Ohio Transfer Module Approved

**MUS 110 Jazz Appreciation****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the history of jazz from its origin to the present. Topics include: jazz styles, composers, and traditions.

Prerequisites: None

Ohio Transfer Module Approved

**MUS 115 Rock and Pop Music****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the evolution of rock, pop, and related music genres from the early 20th century to the present. Topics include: the social, political, and cultural impact of popular music in the United States.

Prerequisites: None

Ohio Transfer Module Approved

**MUS 120 World Music****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on musical forms, instrumental development, and the role of music in various ethnic cultures. Topics include: traditions, belief systems, and practices affecting music in the Americas, Europe, Africa, India, Indonesia, the Arab world, and China.

Prerequisites: None

Ohio Transfer Module Approved

**MUS 131 Vocal Ensemble for Mixed Voices 1****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Students perform in their first semester as members of a mixed-voice ensemble, applying vocal techniques for singing accurately and blending with others. Music includes classical, sacred, and popular choral literature representing world languages and cultures.

Prerequisites: None

**MUS 132 Vocal Ensemble for Mixed Voices 2****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Prerequisites: MUS 131

**MUS 133 Vocal Ensemble for Mixed Voices 3****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Students perform in their third semester as members of a mixed-voice ensemble, applying vocal techniques for singing accurately and blending with others.

Prerequisites: MUS 132

**MUS 134 Vocal Ensemble for Mixed Voices 4****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Students perform in their fourth semester as members of a mixed-voice ensemble, applying vocal techniques for singing accurately and blending with others.

Prerequisites: MUS 133

**MUS 135 Vocal Ensemble for Mixed Voices 5****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

Students perform in their fifth semester as members of a mixed-voice ensemble, applying vocal techniques for singing accurately and blending with others.

Prerequisites: MUS 134

## NET

## NETA

### Courses

**NETA 115 Networking Essentials****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on managing operating systems in a network environment. Topics include: topologies and technologies; network hardware; protocols; network standards; network problem solving; and network administration, support, and security.

Prerequisites: IT 115

**NETA 120 Computer Virtualization****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operating systems in a virtual environment. Topics include: fundamentals of virtualization, advantages of using virtual software, and installing virtual systems.

Prerequisites: ENG 085 and MAT 093, or appropriate placements

**NETA 125 Open Source Operating Systems and Applications****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the open source movement and essential operating systems and applications. Topics include: history of open source, the Linux operating system, file systems, and troubleshooting.

Prerequisites: IT 115

**NETA 135 Information Technology Support Desk Concepts****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamental operations and procedures of an information technology support desk. Topics include: product evaluation, roles and responsibilities, support management, needs assessment, and troubleshooting.

Prerequisites: IT 115

**NETA 155 Server Administration 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on user administration for Microsoft Windows server technology. Topics include: installing servers, configuring server roles, deploying core network services, administering Active Directory, managing remote servers, and creating and managing group policy.

This course prepares students for a Microsoft Certification exam.

Prerequisites: NETC 121 or IT 115 (minimum grade C for both)

**NETA 191 Part-Time Cooperative Education 1: Computer Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**NETA 192 Part-Time Cooperative Education 2: Computer Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 191

**NETA 193 Part-Time Cooperative Education 3: Computer Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 192

**NETA 194 Part-Time Cooperative Education 4: Computer Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 193

**NETA 195 Part-Time Cooperative Education 5: Computer Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 194

**NETA 196 Part-Time Cooperative Education 6: Computer Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 195

**NETA 256 Server Administration 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of NETA 155. Topics include: deploying, managing, and maintaining servers; configuring file and print services; configuring Network Policy Server infrastructure; configuring and managing Active Directory; and managing group policy. This course prepares students for a Microsoft Certification exam.

Prerequisites: NETA 155 (minimum grade C)

**NETA 265 Server Configuration****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on configuration for Microsoft Windows server technology. Topics include: configuring file and storage solutions, network services, Active Directory infrastructure, and access solutions; and business continuity and disaster recovery. This course prepares students for a Microsoft Certification exam.

Prerequisites: NETA 155 (minimum grade C)

**NETA 290 Networking and Computer Support Capstone****4 Credits. 1 Lecture Hour. 6 Lab Hours.**

Students demonstrate knowledge and skills while completing a project related to the Computer Network Administration and Computer Support and Administration programs. Topics include: analyzing and designing appropriate network architecture, developing business network solutions, and installing and implementing networks.

Prerequisites: NETA 256 or CSA 112

**NETA 291 Full-Time Cooperative Education 1: Computer Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**NETA 292 Full-Time Cooperative Education 2: Computer Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 291

**NETA 293 Full-Time Cooperative Education 3: Computer Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 292

**NETA 294 Internship 1: Computer Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**NETA 295 Internship 2: Computer Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETA 294

# NETC

## Courses

**NETC 121 Network Communications 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on computer networks and network operating systems. Topics include: network topology, local and wide area networks, connecting devices to networks, basic network software and file sharing, and problem solving. This course helps students prepare for the CompTIA Network+ exam.

Prerequisites: ENG 085, and MAT 115 or MAT 124, or appropriate placements

**NETC 122 Network Communications 2****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of NETC 121. Topics include: routing protocols, spanning tree, VLANs and network security, and network address translation.

Prerequisites: NETC 121

**NETC 170 Governance and Management of IT****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on frameworks for organizational governance of information technology. Topics include: IT portfolio management, risk and compliance, and business continuity planning and impact analysis.

Prerequisites: NETC 121

**NETC 180 Information Risk Management****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on methods for analyzing and classifying organizational data to maintain information security. Topics include: information ownership; information threats, vulnerabilities, and exposure; and investigating and assessing risk.

Prerequisites: NETC 122 and NETA 155

**NETC 191 Part-Time Cooperative Education 1: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**NETC 192 Part-Time Cooperative Education 2: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 191

**NETC 193 Part-Time Cooperative Education 3: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 192

**NETC 194 Part-Time Cooperative Education 4: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 193

**NETC 195 Part-Time Cooperative Education 5: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 194

**NETC 196 Part-Time Cooperative Education 6: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 195

**NETC 230 Network Security Design****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on developing security to protect business systems. Topics include: design and testing of various layered network security software and hardware.

Prerequisites: NETA 155 and NETC 121

Corequisites: NETC 122

**NETC 240 Emerging Topics in Computer Network Engineering Technology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on current industry needs related to Computer Network Engineering Technology. Topics include: voice-over-internet protocol (VoIP), cloud computing, and Linux.

Prerequisites: NETC 122 and NETA 155

**NETC 280 IT Documentation****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on documentation of IT systems focusing on general regulatory compliance requirements. Students use Microsoft Visio for laboratory activities.

Prerequisites: NETC 170, ENG 101

**NETC 290 Computer Network Engineering Technology Capstone Project****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

Students work in teams to design and build network solutions while demonstrating knowledge and skills gained in the Computer Network Engineering Technology program.

Prerequisites: NETC 122, NETC 230, NETB 155, ENG 102

**NETC 291 Full-Time Cooperative Education 1: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**NETC 292 Full-Time Cooperative Education 2: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 291

**NETC 293 Full-Time Cooperative Education 3: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 292

**NETC 294 Internship 1: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**NETC 295 Internship 2: Computer Network Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 294

# NUR

## Courses

### **NUR 100 Orientation to Nursing**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on building knowledge and skills essential to success for students entering the Nursing associate degree program. Topics include: the nursing process, professionalism, critical thinking, time management, study skills, and communication.

Prerequisites: None

Instructor Consent Required

### **NUR 101 Nursing Concepts 1**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of the RN in the healthcare system, including cognitive, affective, and psychomotor skills. Topics include: academic success skills, communication, math, health and wellness, cultural awareness, regulatory guidelines, safety, patient education, and basic nursing skills.

Prerequisites: Admitted to the NUR program, high school biology and chemistry within the past 7 years, and STNA (minimum grade C for all courses)

Instructor Consent Required

### **NUR 102 Nursing Concepts 2**

**6 Credits. 3 Lecture Hours. 9 Lab Hours.**

A continuation of NUR 101. Topics include: holistic care of patients with common health problems, nursing processes, communication, evidence-based practice, cultural sensitivity, and effective decision making skills. Students apply specific nursing and assessment skills in the clinical setting.

Prerequisites: NUR 101, BIO 151, MCH 100 and (ENG 101 or ENG REQC) (minimum grade C for all)

Instructor Consent Required

### **NUR 103 Nursing Concepts 3**

**9 Credits. 6 Lecture Hours. 9 Lab Hours.**

A continuation of NUR 102. Topics include: nursing care of children and adults across the life span. Students apply clinical reasoning and nursing skills in simulations and in the clinical setting.

Prerequisites: NUR 102 and BIO 152 and 6 credits of English Composition (minimum grade C for all)

Instructor Consent Required

### **NUR 104 Academic Success Strategies for Nursing**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategies for academic success in the Nursing associate degree program. Topics include: using college resources; building skills in critical thinking, studying, mathematics, and test-taking; and improving time management skills.

Prerequisites: Instructor consent

Instructor Consent Required

### **NUR 105 Nursing LPN to ADN Transition**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course for the LPN who is transitioning into the Associate's degree Nursing program. Topics include: concepts and skills distinctive to the LPN and RN, nursing roles and academic programs, and skills applications in laboratory and clinical settings.

Prerequisites: Unencumbered LPN license in Ohio, and BIO 151 and ENG 101 (minimum grade C for both)

Corequisites: NUR 106 : Nursing LPN/ADN Bridge

Instructor Consent Required

### **NUR 106 Nursing LPN/ADN Bridge**

**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course for the Licensed Practical Nurse entering the Associate's degree Nursing program. Topics include: nursing care of children, and nursing skills and competencies. Students apply clinical reasoning and nursing skills in simulations and in the clinical setting.

Prerequisites: Unencumbered LPN license in Ohio, and BIO 151 and ENG 101 (minimum grade C for both)

Corequisites: NUR 105: Nursing LPN to ADN Transition

Instructor Consent Required

### **NUR 150 Nursing Advanced Standing - LPN to ADN**

**11 Credits. 11 Lecture Hours. 0 Lab Hour.**

Students may receive up to 11 semester credit hours for prior training as an LPN that applies to credits required in the Associate's degree Nursing program. Nursing Program Chair approval is required.

Prerequisites: Program Chair consent

Instructor Consent Required

### **NUR 201 Nursing Concepts 4**

**11 Credits. 7 Lecture Hours. 12 Lab Hours.**

A continuation of NUR 103. Topics include: nursing care of individuals and families in multiple clinical settings, including mental health/psychiatric nursing, obstetrical nursing, and medical-surgical nursing. Students apply specific skills in the clinical setting.

Prerequisites: NUR 103 or NUR 105, and BIO 152 (minimum grade C for all)

Instructor Consent Required

### **NUR 202 Nursing Concepts 5**

**9 Credits. 6 Lecture Hours. 9 Lab Hours.**

A continuation of NUR 201. Topics include: managing care of patients experiencing complex, acute, and emergency variations in health status; preparing for the NCLEX-RN exam; and preparing for transition to the role of professional nurse. Students apply specific skills in the clinical setting.

Prerequisites: NUR 201, and COMM 105 or COMM 110 (minimum grade C for all)

Instructor Consent Required

# OTA

## Courses

### **OTA 100 Introduction to Occupational Therapy Assisting** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on history, philosophy, and development of occupational therapy. Topics include: the Occupational Therapy Practice Framework, role and function of occupational therapists and occupational therapy assistants, and relationship of this field to other allied health professions. Students observe community occupational therapy settings.

Prerequisites: Admitted to OTA program (or OTA Pre-Admit status and completing Selective Enrollment steps)

Instructor Consent Required

### **OTA 101 Professionalism in Occupational Therapy** **1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on basic tenets of professional behaviors required for client treatment and working in the health care field. Topics include: professional dress, written and verbal communication, time management, ethics, and professional associations.

Prerequisites: OTA 100 (minimum grade C)

### **OTA 105 Theory of Occupational Therapy** **3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developmental processes of human performance.

Topics include: occupational tasks and roles from birth to death; age-appropriate balance of work, self-care, and play/leisure; the impact of disease; and the therapeutic use of self.

Prerequisites: Admitted to the OTA program through the selective enrollment process, and instructor consent

Corequisites: OTA 106: Techniques of Occupational Therapy

Instructor Consent Required

### **OTA 106 Techniques of Occupational Therapy** **2 Credits. 0 Lecture Hour. 4 Lab Hours.**

A course on use of crafts and occupation-based activity as therapeutic modalities in treatment toward function. Topics include: activity analysis and therapeutic adaptations, problem-solving, and critical thinking.

Prerequisites: Admission to the OTA program through the selective enrollment process, and instructor consent

Corequisites: OTA 105: Theory of Occupational Therapy

Instructor Consent Required

### **OTA 107 Clinical Competency Foundations for Occupational Therapy Assistant**

**1 Credit. 2 Lab Hours.**

A course for Occupational Therapy Assistant students on essential client care skills that provide a foundation for future OTA courses and clinical fieldwork. Students must successfully complete several practical examinations to earn a passing grade in the course.

Prerequisites: Admitted to the OTA program through the selective enrollment process, and instructor consent

Instructor Consent Required

### **OTA 110 Concepts and Skills of Occupational Therapy: Psychosocial**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the role of occupational therapy in the treatment of adults in a mental health setting. Topics include: analysis and observational skills, use of self and group for therapeutic intervention, application of group process, and documentation and communication.

Prerequisites: OTA 105, OTA 106 (minimum grade C for both)

### **OTA 111 Therapeutic Media for Occupational Therapy: Psychosocial**

**2 Credits. 0 Lecture Hour. 4 Lab Hours.**

A mental health laboratory experience that accompanies OTA 110.

Topics include: leadership and critical thinking skills needed in a group setting, applying group process, and using purposeful activity and crafts as therapeutic tools.

Prerequisites: OTA 105, OTA 106 (minimum grade C for both)

### **OTA 120 Concepts and Skills of Occupational Therapy: Pediatrics** **2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the role of occupational therapy in treatment of children with physical and/or psychological dysfunction. Topics include: normal development, developmental disabilities, choosing functionally significant and age-appropriate treatment interventions, documentation, and the team approach.

Prerequisites: OTA 105, OTA 106 (minimum grade C for both)

### **OTA 121 Therapeutic Media for Occupational Therapy: Pediatrics** **2 Credits. 0 Lecture Hour. 4 Lab Hours.**

A pediatric laboratory experience that accompanies OTA 120. Topics include: basic developmental screening; using play as a therapeutic tool; evaluating other occupational performance skills; using adaptive equipment; and therapeutic techniques for positioning, handling, and feeding.

Prerequisites: OTA 105, OTA 106 (minimum grade C for both)

### **OTA 180 Occupational Therapy Assisting Level I Fieldwork 1** **2 Credits. 1 Lecture Hour. 5 Lab Hours.**

Directed observation and participation in a community occupational therapy setting with emphasis on pediatric topics. Students must provide proof of current certification in CPR and First Aid.

Prerequisites: OTA 105 and OTA 106 (minimum grade C for both)

### **OTA 185 Occupational Therapy Assisting Level I Fieldwork 2** **2 Credits. 1 Lecture Hour. 5 Lab Hours.**

Directed observation and participation in a community occupational therapy setting with emphasis on psychosocial topics. Students must provide proof of current certification in CPR and First Aid.

Prerequisites: OTA 120 and OTA 121 (minimum grade C for both)

### **OTA 230 Concepts and Skills of Occupational Therapy: Physical Disabilities**

**4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on the role of occupational therapy in treatment of adults and elders with physical dysfunction in settings including in-patient, out-patient and rehabilitation. Topics include: treatment techniques for various diagnoses, treatment planning and implementation, and documentation skills.

Prerequisites: OTA 110, OTA 120, OTA 180, OTA 185 (minimum grade C for all)

**OTA 231 Therapeutic Media for Occupational Therapy: Physical Disabilities****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A physical disabilities laboratory experience that accompanies OTA 230. Topics include: techniques for activities of daily living, therapeutic adaptations, adaptive/assistive equipment, community mobility, community resources, and critical thinking skills.

Prerequisites: OTA 111 and OTA 121 (minimum grade C for both)

**OTA 233 Kinesiology for Occupational Therapy****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on the movement of body parts in relation to rehabilitation therapy. Topics include: kinematics and movement analysis; fabrication, application, fitting, and using orthotic positioning devices; and administering superficial thermal and mechanical modalities to improve occupational performance.

Prerequisites: OTA 110 and OTA 120 (minimum grade C for both)

**OTA 240 Fundamentals of Occupational Therapy Practice****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on professional concerns for the practicing Occupational Therapy Assistant. Topics include: licensure, liability, continuing education, national registration, and promoting occupational therapy. Students prepare for Level 2 Field Work experience.

Prerequisites: OTA 230, OTA 231, OTA 233 (minimum grade C for all)

**OTA 241 Fundamentals of Occupational Therapy Practice 1****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on professional concerns for the practicing Occupational Therapy Assistant. Topics include: role delineation, supervision, leadership, management, and promoting occupational therapy. Students prepare for the Level II internship experience.

Prerequisites: OTA 230 and OTA 231 and OTA 280 and OTA 233

**OTA 242 Fundamentals of Occupational Therapy Practice 2****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A continuation of OTA 241. Topics include: preparation for employment including licensure, liability, and the national certification exam.

Prerequisites: OTA 241

**OTA 245 Therapeutic Media Analysis for Occupational Therapy****1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A course on using crafts and occupation-based activities in various clinical settings. Topics include: analyzing tasks and developing group leadership skills.

Prerequisites: OTA 230, OTA 231, OTA 233 (minimum grade C for all)

**OTA 280 Occupational Therapy Assisting Level I Fieldwork 3****2 Credits. 1 Lecture Hour. 4 Lab Hours.**

Directed observation and participation in a community occupational therapy setting with emphasis on physical disabilities and geriatric topics. Students must provide proof of current certification in CPR and First Aid.

Prerequisites: OTA 180 (minimum grade C)

**OTA 294 OTA Level II Fieldwork 1****1 Credit. 0 Lecture Hour. 22 Lab Hours.**

An internship that provides 8 weeks of full-time work experience delivering occupational therapy services for various ages and conditions, under the supervision of a registered occupational therapy practitioner.

Prerequisites: OTA 230 and OTA 231 and OTA 280

**OTA 295 OTA Level II Fieldwork 2****1 Credit. 0 Lecture Hour. 22 Lab Hours.**

An internship that provides 8 weeks of full-time work experience delivering occupational therapy services for various ages and conditions, under the supervision of a registered occupational therapy practitioner.

Prerequisites: OTA 230 and OTA 231 and OTA 280

# PAS

## Courses

**PAS 100 Theory of Baking****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the science and technical components of baking. Topics include: function of ingredients, such as fats, sugar, liquids, and leavening agents; and flour technology. The course is delivered through online instruction only.

Prerequisites: Admitted to PAS program, and ENG 085 and MAT 093, or appropriate placements

Corequisites: PAS 105 and PAS 110

Instructor Consent Required

**PAS 105 Fundamentals of Baking****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on baking principles. Topics include: ingredient functions; weighing and measuring procedures; using leavening agents; and producing yeast dough, quick breads, puff pastries, pies, and tarts.

Prerequisites: Admitted to PAS program, and ENG 085 and MAT 093 or appropriate placements

Corequisites: PAS 100 and PAS 110

Instructor Consent Required

**PAS 110 Celebration Cakes****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on design and production of cakes for celebrations such as weddings, birthdays, anniversaries, and other special occasions.

Prerequisites: Admitted to PAS program, and ENG 085 and MAT 093, or appropriate placements

Corequisites: PAS 100 : Theory of Baking, PAS 105 : Fundamentals of Baking

Instructor Consent Required

**PAS 115 Pastry Production and Design****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on production and decorating of cakes, cookies, petits four, and fruit-based desserts. Topics include: make-up methods, finishing techniques, using pastry decoration mediums, and creating a sugar centerpiece.

Prerequisites: PAS 100 and PAS 105 and PAS 110 (minimum grade C for all)

Instructor Consent Required

**PAS 120 Nutritional Baking and Cuisine****3 Credits. 1 Lecture Hour. 4 Lab Hours.**

A course on producing nutritional baked goods. Topics include: nutritional significance of ingredients; replacements for fat, sodium, and sugar; and techniques for recipe modification.

Prerequisites: DT 120 and PAS 100 and PAS 105 (minimum grade C for all)

Instructor Consent Required



**PAS 191 Part-Time Cooperative Education 1: Pastry Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190 (minimum grade C) and co-op coordinator consent

**PAS 192 Part-Time Cooperative Education 2: Pastry Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PAS 191

**PAS 193 Part-Time Cooperative Education 3: Pastry Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PAS 192

**PAS 194 Part-Time Cooperative Education 4: Pastry Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PAS 193

**PAS 195 Part-Time Cooperative Education 5: Pastry Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PAS 194

**PAS 196 Part-Time Cooperative Education 6: Pastry Arts****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PAS 195

**PAS 210 Advanced Pastry and Buffet Design****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on production of a pastry buffet. Topics include: decoration techniques, creating dessert platters, and producing sugar centerpieces. Prerequisites: PAS 115 (minimum grade C) Instructor Consent Required

**PAS 215 Novelty and Theme Cake Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on production of novelty and theme cakes. Topics include: cake sculpturing techniques, fondant figure-making, figure piping, and creative construction styles. Prerequisites: PAS 110 (minimum grade C) Instructor Consent Required

**PAS 220 Advanced Wedding Cake Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on the design and construction of wedding cakes. Topics include: layering and covering tiered cakes, using techniques for fine piping design and royal icing, and creating gum paste flowers and other decorations. Prerequisites: PAS 110 (minimum grade C) Instructor Consent Required

**PAS 225 Artisan Bread Baking****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on the production of fine artisan breads. Topics include: techniques for basic sponge and sour dough, lamination of dough, and production of European-style specialty bread products. Prerequisites: PAS 105 (minimum grade C) Instructor Consent Required

**PAS 230 Chocolate and Confectionery Production****3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on chocolate use, focusing on proper tempering and construction of a chocolate centerpiece. Topics include: candy making and coating. Prerequisites: PAS 105 (minimum grade C) Instructor Consent Required

**PAS 290 Pastry Capstone****3 Credits. 1 Lecture Hour. 5 Lab Hours.**

Students apply previous training in baking and pastry arts to advanced study of bakery production, emphasizing dessert production for restaurants. Prerequisites: PAS 210 (minimum grade C) Instructor Consent Required

**PAS 291 Full-Time Cooperative Education 1: Pastry Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: HRM 100 and PAS 105 (minimum grade C for both) and co-op coordinator consent

**PAS 292 Full-Time Cooperative Education 2: Pastry Arts****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PAS 291

**PAS 293 Full-Time Cooperative Education 3: Pastry Arts**  
**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: PAS 292

## PBA

### Courses

**PBA 191 Part-Time Cooperative Education 1: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: BUS 190

**PBA 192 Part-Time Cooperative Education 2: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: PBA 191

**PBA 193 Part-Time Cooperative Education 3: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: PBA 192

**PBA 194 Part-Time Cooperative Education 4: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: PBA 193

**PBA 195 Part-Time Cooperative Education 5: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: PBA 194

**PBA 196 Part-Time Cooperative Education 6: Pre-Business Administration**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: PBA 195

**PBA 291 Full-Time Cooperative Education 1: Pre-Business Administration**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: BUS 190

**PBA 292 Full-Time Cooperative Education 2: Pre-Business Administration**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: PBA 291

**PBA 293 Full-Time Cooperative Education 3: Pre-Business Administration**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: PBA 292

## PCC

## PE

### Courses

**PE 100 Meditation**

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on incorporating meditation practice into daily lifestyle. Topics include: introduction to meditation, relaxation techniques, meditation teachings, and breathing techniques.  
 Prerequisites: None

**PE 104 Relaxation**

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on techniques for incorporating the relaxation response into daily life. Topics include: life choices, environmental stressors, nutrition, and developing coping skills to deal with stressors.  
 Prerequisites: None

**PE 108 Yoga**

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using yoga to provide flexibility, strength, and relaxation, and to develop a yoga practice in a group setting. Topics include: yoga postures and movements, breathing techniques, meditation, and yoga philosophy.  
 Prerequisites: None

**PE 112 Pilates Mat****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on Joseph Pilates' concepts of body conditioning. Topics include: the effects of posture, flexibility, strength, and breathing techniques on increased body awareness and movement sense.

Prerequisites: None

**PE 116 Zumba****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on achieving a cardiovascular workout by combining interval training and resistance training with Latin dance music.

Prerequisites: None

**PE 124 Spinning****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using indoor stationary cycling to provide a cardiovascular workout. Topics include: bike set-up, pedal stroke, cycling positions, nutrition, periodization, heart rate training, and energy zones.

Prerequisites: None

**PE 128 Group Fitness****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on techniques for experiencing a total body workout in a group setting, including cardiovascular movement, strength training, and flexibility training.

Prerequisites: None

**PE 132 Resistance and Cardiorespiratory Training****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on exercise techniques for developing and maintaining physical fitness and good health. Topics include: basic exercise principles, building and retaining muscle mass, and using strength training to improve cardiovascular endurance.

Prerequisites: None

**PE 136 Aikido****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on martial arts that emphasize a non-aggressive approach to self defense without injury. Topics include: using the energy of an opponent to diffuse an attack with blending energy, pressure points, and joint locks and pins.

Prerequisites: None

**PE 140 Tai Chi****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on using Yang style Tai-Chi Chuan to improve flexibility, balance, endurance, and health. Topics include: physiological basis of the techniques, simplified 24 forms, and stress reduction.

Prerequisites: None

**PE 156 Soccer****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental soccer skills. Topics include: rules, terminology, practice, and game play.

Prerequisites: None

**PE 160 Basketball****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental basketball skills. Topics include: rules, terminology, dribbling, shooting, passing, team strategy, and game play.

Prerequisites: None

# PHI

## Courses

**PHI 105 Introduction to Philosophy****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of philosophical principles and methods of investigation. Topics include: knowledge, reasoning, morality, and other philosophical concepts associated with notable Western and Eastern philosophers.

Prerequisites: ENG 101

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**PHI 110 Ethics****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of theories and applications of ethics. Topics include: evaluating moral arguments in theoretical and practical situations, applying moral reasoning to contemporary social and cultural problems, and making moral choices using examples related to the student's field of study.

Prerequisites: ENG 101

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

# PHY

## Courses

**PHY 110 Health Physics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and principles of physics that are applied in health technologies. Topics include: math for physics, the kinematics and dynamics of linear motion, machines, fluid mechanics, temperature, electricity and electrical safety, waves, and light.

Prerequisites: MAT 096 (minimum grade C) or MAT 105 or appropriate placement

**PHY 115 Aviation Maintenance Physics****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on concepts and principles of physics applied in aviation technologies. Topics include: kinematics and dynamics of one- and two-dimensional motion, work, power, conservation laws, machines, fluid mechanics, and thermodynamics.

Prerequisites: MAT 121 or appropriate placement

**PHY 150 Introduction to Physics****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of physics. Topics include: laboratory procedures, the controlled experiment, methods of measurement, data collection and analysis techniques, and interpreting experimental results.

Prerequisites: MAT 124 or appropriate placement

**PHY 151 Physics 1: Algebra and Trigonometry-Based****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on concepts and principles of algebra-and-trigonometry-based physics. Topics include: kinematics, dynamics, statics, heat, and thermodynamics.

Prerequisites: PHY 150, or MAT 125 or appropriate math placement

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**PHY 152 Physics 2: Algebra and Trigonometry-Based  
4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A continuation of PHY 151. Topics include: waves, electromagnetic radiation, geometrical optics, physical optics, photometry, basic forces in physics, AC and DC circuits, quantum mechanics, and atomic and nuclear physics.

Prerequisites: PHY 151

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**PHY 201 Physics 1: Calculus-Based  
5 Credits. 4 Lecture Hours. 2 Lab Hours.**

A course on concepts and principles of calculus-based physics. Topics include: the kinematics and dynamics of linear and rotational motion, gravity, oscillatory motion, waves, and fluid mechanics.

Prerequisites: MAT 126 or MAT 152 or MAT 153 or appropriate placement

Corequisites: MAT 251

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**PHY 202 Physics 2: Calculus-Based  
5 Credits. 4 Lecture Hours. 2 Lab Hours.**

A continuation of PHY 201. Topics include: thermodynamics, electric and magnetic fields, dc and ac circuit analysis, electromagnetic radiation, optics including interference and diffraction, and modern physics.

Prerequisites: PHY 201 and MAT 251

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

## PM

## PN

### Courses

**PN 101 Practical Nursing Concepts 1  
8 Credits. 5 Lecture Hours. 9 Lab Hours.**

An introduction to the practical nursing role with applications of basic nursing skills in lab, simulation, and clinical settings. Topics include: pharmacology, safety, nursing process, nursing history and law, and alterations in health.

Prerequisites: Admitted to the Practical Nursing Certificate program, high school biology and chemistry within the past 7 years, and STNA (minimum grade C for all courses)

Instructor Consent Required

**PN 102 Practical Nursing Concepts 2  
10 Credits. 7 Lecture Hours. 9 Lab Hours.**

A continuation of PN 101, with applications of clinical reasoning and nursing skills in classroom, lab, simulation, and clinical settings. Topics include: mental health, and care of the patient with alterations in health across the lifespan.

Prerequisites: PN 101

Instructor Consent Required

**PN 103 Practical Nursing Concepts 3  
6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A continuation of PN 102 focusing on preparation for transition to the role of the practical nurse, with applications of nursing skills. Topics include: care of the patient with complex alterations in health, women's health/OB, and the professional role.

Prerequisites: PN 102

Instructor Consent Required

**PN 125 Academic Success Strategies for Practical Nursing  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on strategies for academic success in the Practical Nursing Certificate program. Topics include: building skills in critical thinking, studying, mathematics, and test-taking; improving time management skills; and developing effective communication and conflict resolution skills.

Prerequisites: Instructor consent

Instructor Consent Required

**PN 185 Practical Nursing Role Transition  
2 Credits. 2 Lecture Hours. 8 Lab Hours.**

Students apply practical nursing knowledge and skills while working with diverse groups of patients. Topics include: professionalism, and transition from student to practical nurse role. To pass the course, students must achieve a predetermined score on a national standardized exam.

Prerequisites: PN 122 (minimum grade C), and PN 182

Instructor Consent Required

## POL

### Courses

**POL 100 Democracy in Action: Making Your Voice and Vote Count  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

An introduction to the role of citizens in a democracy. Topics include: the history of voting in the United States, participation in electoral processes, local and state government, and how voters can make changes in their community.

Prerequisites: None

**POL 101 Introduction to American Government  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of the American political system at the national level. Topics include: democratic theory and principles, the Constitution, civil liberties, and citizen rights.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**POL 102 Introduction to Comparative Governments and Politics  
3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of political systems and structures. Topics include: the relationship between political ideologies and governments; and comparison of international examples of alternative structures for executive leadership, legislatures, bureaucracy, and judicial systems.

Prerequisites: POL 101

Ohio Transfer Module Approved

# PSC

## Courses

### **PSC 105 Astronomy**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of astronomy. Topics include: evolution of the solar system, probability of life beyond Earth, and evolution of the universe.

Prerequisites: MAT 093 (minimum grade C for both) or MAT 105 or appropriate placement

Ohio Transfer Module Approved

### **PSC 110 Earth Science**

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of earth science. Topics include: geologic processes and history of Earth, techniques of weather forecasting, and methods for maintaining environmental integrity.

Prerequisites: MAT 093 (minimum grade C for both) or MAT 105 or appropriate placement

Ohio Transfer Module Approved

### **PSC 115 Energy and the Environment**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on fundamental concepts of science related to energy. Topics include: historical energy sources, social costs of energy, and alternative energy sources.

Prerequisites: MAT 093 (minimum grade C) or appropriate placement  
Ohio Transfer Module Approved

# PSET

## Courses

### **PSET 110 Power Systems Computer Aided Drafting**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on computer aided drafting and design for power systems. Topics include: CAD fundamentals; and designing, modifying, and editing documents that apply to the power systems industry.

Prerequisites: ENG 085, and MAT 096 or MAT 124, or appropriate placements

### **PSET 120 Geographic Information Systems (GIS)**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on skills used for computer-aided electronic mapping as applied to the power grid system. Topics include: power grid mapping, map databases, spatial positioning, analysis, modeling, and visualization.

Prerequisites: PSET 110

### **PSET 130 National Electric Code and National Electric Safety Code**

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on the purpose, intent, use, and enforcement of the National Electric Code (NEC) and the National Electric Safety Code (NESC) in electrical design and in specifications of equipment used in power systems.

Prerequisites: EET 131

### **PSET 140 Power Systems Foundations**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to electrical power systems from generation to utilization. Topics include: purpose, composition, operating characteristics, and design considerations of power system components; power quality and safety; fundamentals of AC waveforms including single and three phase connections, voltage and current calculations; per-unit representation; and power factor.

Prerequisites: EET 131

### **PSET 150 Electrical Power Technology Studies: Adv**

**30 Credits. 30 Lecture Hours. 0 Lab Hour.**

Students complete apprenticeship education, post-secondary education, or work experience related to skills used in the electrical power industry.

Prerequisites: Program Chair consent

Instructor Consent Required

### **PSET 191 Part-Time Cooperative Education 1: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### **PSET 192 Part-Time Cooperative Education 2: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 191

### **PSET 193 Part-Time Cooperative Education 3: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 192

### **PSET 194 Part-Time Cooperative Education 4: Power Systems Engineering Technology**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 193

**PSET 195 Part-Time Cooperative Education 5: Power Systems Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 194

**PSET 196 Part-Time Cooperative Education 6: Power Systems Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 195

**PSET 225 Industrial and Commercial Power Design****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on design of industrial and commercial building electrical distribution systems. Topics include: load calculations, wiring devices, overcurrent protection, conductors, conduit and raceway systems, panelboards and switchboards, voltage drop calculations, grounding and bonding, branch circuit and feeder design, and motor circuits.

Prerequisites: PSET 140

**PSET 250 Power Transmission and Distribution Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on overhead and underground transmission and distribution systems. Topics include: operation, maintenance, and monitoring of transmission and distribution equipment; transmission line parameters; power flow; design of conductor support structures; overview of system protection; smart grid concepts; and data collection mechanisms.

Prerequisites: PSET 140

**PSET 260 Stationary Engineering with Instrumentation and Controls****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on steam plant operation and associated instrumentation and controls. Topics include: basic components, maintenance requirements for utility boilers, combined cycle and cogeneration systems, nuclear steam generation, standard pressure and horsepower calculations, and control of major steam boiler processes.

Prerequisites: EMET 140 and EMET 240

**PSET 275 Protective Relays and Controls****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on protective relays and their application to electric transmission and distribution systems. Topics include: power regulation and communication requirements; electro-mechanical relays and breakers, microprocessor relays and synchrophasors; transformers; transmission and distribution lines; capacitor banks; and regulator protection.

Prerequisites: EMET 240 and PSET 225

**PSET 290 Power Systems Capstone****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

Students work in teams to complete a design project. Topics include: design concepts, modeling, detail and assembly drawings, bill of materials, vendors, costs, and manufacture of prototype.

Prerequisites: PSET 220 and PSET 225

**PSET 291 Full-Time Cooperative Education 1: Power Systems Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**PSET 292 Full-Time Cooperative Education 2: Power Systems Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 291

**PSET 293 Full-Time Cooperative Education 3: Power Systems Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 292

**PSET 294 Internship 1: Power Systems Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: EMET 140

**PSET 295 Internship 2: Power Systems Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: PSET 294

## PST

### Courses

**PST 100 Introduction to Emergency Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on professionalism and ethics in the safety and security career fields. Topics include: risk assessment, mitigation, and response; disaster recovery; preparedness; and communications.

Prerequisites: ENG 085 or appropriate placement

**PST 110 Introduction to Homeland Security****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on key principles of emergency management and their relationship to homeland security. .

Prerequisites: None

**PST 115 Introduction to Terrorist Groups****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the history, motivation, and activities of terrorists. Topics include: how terrorist groups and individuals evolve, and how governments respond to terrorist events.  
Prerequisites: None

**PST 120 Intelligence Analysis and Security Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on key principles of physical security. Topics include: passive detection systems; assessing risk; understanding rules of evidence and testifying in court; and using tools such as link analysis, event flow diagrams, and visual intelligence analysis diagrams.  
Prerequisites: None

**PST 125 Public Safety Contingency Planning****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on techniques for developing continuity of operations plans (COOP), continuity of government plans (COG), and event and community hazard plans.  
Prerequisites: PST 110

**PST 130 Public Safety Communication Practices****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on techniques for communication with employees, the community, and the media during a crisis event.  
Prerequisites: None

**PST 135 Disaster Preparedness for Healthcare Workers****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on disaster preparedness, incident command, and risks and hazards as related to the healthcare worker.  
Prerequisites: None

**PST 140 Public Safety Telecommunicator****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of the telecommunicator. Topics include: classifying and prioritizing calls, responding to calls, managing equipment and records, functioning under the Federal Communications Commission (FCC), and professional ethics.  
Prerequisites: ENG 085 or appropriate placement

**PST 145 Emergency Medical Dispatcher****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the responsibilities of the emergency medical dispatcher. Topics include: assessing and prioritizing emergency calls, dispatching the appropriate response, and giving callers appropriate instructions until the responding EMS unit arrives.  
Prerequisites: PST 140

**PST 150 Law Enforcement Studies: Advanced Standi****16 Credits. 16 Lecture Hours. 0 Lab Hour.**

Students may receive up to 16 semester credit hours for successful completion of the Ohio Peace Officer Basic Training or equivalent state/federal law enforcement training. Approval of training by the ATS-Law Enforcement Program Chair is required.  
Prerequisites: Program Chair consent  
Instructor Consent Required

**PST 200 Healthcare Security****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on healthcare security programs. Topics include: preventing accidents and injuries, fire safety, and crisis intervention.  
Prerequisites: PST 120

**PST 205 Transportation Security****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on providing security for various modes of transportation and transportation facilities. Topics include: airports, railroads, ports, trucking, and pipelines.  
Prerequisites: None

**PST 291 Full-Time Cooperative Education 1: Public Safety Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: PST 100 (minimum grade C)  
Instructor Consent Required

**PST 292 Part-Time Internship 1: Public Safety Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in a part-time unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit.  
Prerequisites: PST 100 (minimum grade C)

**PST 294 Full Time Internship 1: Public Safety Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in a full-time unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
Prerequisites: PST 100 (minimum grade C)

## PSY

### Courses

**PSY 100 Applied Psychology: Human Relations****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on applying psychological principles and theories to everyday life. Topics include: personality, behavioral change, stress and coping, interpersonal communication, relationships, gender and sexuality, and diversity and individual differences.  
Prerequisites: None

**PSY 102 Applied Psychology: Stress Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on understanding and managing stress. Topics include: causes and consequences of stress, physiology of stress, social and cultural factors affecting stress, and strategies for managing stress.  
Prerequisites: None

**PSY 105 Psychology of Leadership****4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on developing leadership and peer mentoring skills. Topics include: holistic, group, and individual leadership; leadership for diversity; and academic retention strategies. Students serve as peer leaders and must attend at least 70% of class sessions for the course they are leading.  
Prerequisites: FYE 100 or FYE 105 or FYE 110 or HNR 100 (minimum grade B for all), and ENG 085 (minimum grade C) or appropriate placement

**PSY 110 Introduction to Psychology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on psychology as the scientific study of behavior and mental processes. Topics include: history, experimental psychology, clinical psychology, and human development.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement  
Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**PSY 200 Abnormal Psychology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Survey of behavioral, emotional, and mental disorders. Topics include: etiology, prognosis, and treatment modalities using the current DSM; historical and cultural viewpoints; research; prevention; substance abuse; and legal and ethical issues.

Prerequisites: PSY 110

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**PSY 205 Child Development****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on a child's development from the prenatal period to age 12. Topics include: influences of physical/neurological, social/emotional, and cognitive factors in development.

Prerequisites: PSY 110

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**PSY 210 Adolescent Development****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developmental issues of adolescence. Topics include: physical, cognitive, familial, educational/vocational, and social development.

Prerequisites: PSY 110

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**PSY 215 Adult Development****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of principles and theories of human growth and development from early adulthood through late adulthood.

Prerequisites: PSY 110

Ohio Transfer Module Approved

**PSY 220 Social Psychology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of the individual within the social environment. Topics include: understanding the social behavior of individuals in interactions with others, social interactions in groups, social influence, perception, attraction, aggression, and altruism.

Prerequisites: PSY 110

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**PSY 225 Lifespan Development****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of human development from the prenatal period through late adulthood. Topics include: biological, cognitive, social, and cultural factors that influence development.

Prerequisites: PSY 110

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

## RE

### Courses

**RE 100 Real Estate Principles and Practices****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on real estate economics required prior to taking the sales license exam. Topics include: principles of contracts, civil rights, ethics, financing, brokerage, appraisal, and Ohio real estate practices.

Prerequisites: None

**RE 105 Real Estate Law****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on Ohio Real Estate Law required prior to taking the sales license exam. Topics include: law of agency as applied to real estate; landlord/tenant law; estates; the sales contract; mortgages, deeds, and property; and financing, liens, and easements.

Prerequisites: None

**RE 110 Real Estate Appraisal and Finance****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques related to residential real estate appraisal and finance, emphasizing Ohio real estate transactions. Topics include: finance instruments, loan processes and documentation, and appraisal methods. This course is required prior to taking the Ohio Real Estate Sales Licensing exam.

Prerequisites: None

**RE 191 Part-Time Cooperative Education 1: Real Estate****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**RE 192 Part-Time Cooperative Education 2: Real Estate****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 191

**RE 193 Part-Time Cooperative Education 3: Real Estate****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 192



**RE 194 Part-Time Cooperative Education 4: Real Estate****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 193

**RE 195 Part-Time Cooperative Education 5: Real Estate****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 194

**RE 196 Part-Time Cooperative Education 6: Real Estate****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 195

**RE 291 Full-Time Cooperative Education 1: Real Estate****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**RE 292 Full-Time Cooperative Education 2: Real Estate****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 291

**RE 293 Full-Time Cooperative Education 3: Real Estate****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: RE 292

## REL

### Courses

**REL 105 World Religions****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Comparative study of the major religions of the world. Topics include: foundation and historical development, cultural function, and religious traditions of Hinduism, Islam, Buddhism, Daoism, Confucianism, Jainism, Shintoism, Judaism, Christianity, and other religious movements.

Prerequisites: ENG 101

Ohio Transfer Module Approved

**REL 110 The Old Testament****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Nonsectarian study of the Hebrew Bible/Christian Old Testament Bible. Topics include: historical background, authorship, literary themes and forms, and contemporary biblical scholarship.

Prerequisites: ENG 101

**REL 115 The New Testament****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Nonsectarian study of the Christian New Testament Bible. Topics include: historical background, authorship, literary themes and forms, and contemporary biblical scholarship.

Prerequisites: ENG 101

## RT

### Courses

**RT 100 Introduction to Respiratory Care****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on fundamental concepts in the field of Respiratory Care.

Topics include: history of respiratory care, time management, communication, team building, diversity, patient rights and confidentiality, professional ethics, and death and dying.

Prerequisites: Respiratory Care Program Chair consent

Instructor Consent Required

**RT 101 Respiratory Care Science 1****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on fundamentals of pulmonary patient care. Topics include: patient assessment, moving, and positioning; oxygen therapy; humidity and aerosol therapies; hospital safety; infection control; respiratory pharmacology; and medical ethics.

Prerequisites: PHY 110 or high school physics within the past 6 years (minimum grade C), and Respiratory Care Technology Program Chair consent

Instructor Consent Required

**RT 102 Respiratory Care Science 2****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of RT 101. Topics include: artificial airways, airway suctioning, cleaning and sterilizing equipment, expansion therapy, bronchial hygiene therapies, pulmonary imaging, intubation, non-invasive ventilation, newborn development, and newborn congenital diseases and conditions.

Prerequisites: RT 100 and RT 101 and RT 172 (minimum grade C for all)

**RT 103 Mechanical Ventilation****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on infant and adult mechanical ventilation. Topics include: indications, assessment, application, monitoring, weaning, and modes of mechanical ventilation.

Prerequisites: RT 102 and RT 111 and RT 173 (minimum grade C for all)

**RT 111 Respiratory Care Clinical Practice 1****2 Credits. 1 Lecture Hour. 8 Lab Hours.**

Students practice using respiratory care skills for basic floor therapy in the hospital environment. Topics include: medications administration, oxygen therapy, bronchial hygiene, expansion therapy, and humidification.

Prerequisites: RT 100 and RT 101 and RT 172 (minimum grade C for all)

**RT 112 Respiratory Care Clinical Practice 2****2 Credits. 1 Lecture Hour. 16 Lab Hours.**

A continuation of RT 111. Students practice respiratory care skills and responsibilities in a hospital setting. Topics include: critical care and mechanical ventilation, pulmonary functions, operating room observation, and hyperbaric oxygen.

Prerequisites: RT 102 and RT 111 and RT 173 (minimum grade C for all)

**RT 172 Cardiopulmonary Anatomy and Physiology****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the anatomy and physiology of the respiratory and circulatory systems. Topics include: ventilation, diffusion, O<sub>2</sub> and CO<sub>2</sub> transport, acid/base balance, circulation, ventilation/perfusion (VQ) relationships, compliance, resistance, deadspace, and basic ECG interpretation

Prerequisites: Respiratory Care Program Chair consent

Instructor Consent Required

**RT 173 Cardiopulmonary Disease****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on cardiopulmonary diseases and the diagnosis, treatment, and prognosis of each disease. Topics include: pulmonary diseases and conditions, pulmonary function testing and interpretation, and use of testing in diagnosing pulmonary diseases.

Prerequisites: RT 100 and RT 101 and RT 172 (minimum grade C for all)

**RT 201 Advanced Respiratory Critical Care****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on caring for the critically ill respiratory care patient. Topics include: critical care assessment, medications, hemodynamic monitoring, and critical diseases and conditions.

Prerequisites: RT 103 and RT 112 (minimum grade C for both)

**RT 202 Specialties in Respiratory Care****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on specialized areas of respiratory care and emerging roles for the respiratory therapist. Topics include: bronchoscopy, tracheostomy, burn care, chest tubes, metabolic testing, exercise testing, pulmonary rehabilitation, capnography, and other specialty areas.

Prerequisites: RT 103 and RT 112 (minimum grade C for both)

**RT 203 Respiratory Care Seminar****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

Students review theory and practice in respiratory care to prepare for national certification examinations. Topics include: Advanced Cardiovascular Life Support (ACLS), starting intravenous therapy (IVs), and transitioning from student to professional.

Prerequisites: RT 201 and RT 202 and RT 211 (minimum grade C for all)

**RT 204 Respiratory Care Capstone****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

Students complete a research project in an approved specialty area in the field of respiratory care.

Prerequisites: RT 201 and RT 202 and RT 211 (minimum grade C for all)

**RT 211 Respiratory Clinical Practice 3****2 Credits. 1 Lecture Hour. 16 Lab Hours.**

A continuation of RT 112. Students practice skills and responsibilities for care of ventilator patients in the intensive care unit of a hospital.

Topics include: mechanical ventilation, respiratory equipment, home care, neonatal and pediatrics care, and pulmonary rehabilitation.

Prerequisites: RT 103 and RT 112 (minimum grade C for both)

**RT 212 Respiratory Clinical Practice 4****2 Credits. 1 Lecture Hour. 16 Lab Hours.**

A continuation of RT 211. Students complete an internship and practice respiratory care skills and responsibilities in multiple healthcare settings. Clinical rotations include: ECG and vascular testing, burn care, extended care facilities, and critical care.

Prerequisites: RT 201 and RT 202 and RT 211 (minimum grade C for all)

## SCM

### Courses

**SCM 105 Principles of Supply Chain Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of supply chain management and operations. Topics include: logistics, distribution, warehousing, material handling, material flow, transportation, procurement, and tracking.

Prerequisites: ENG 080 or appropriate placement

**SCM 110 Warehousing and Distribution****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on warehouse management and distribution skills, including OSHA General Industry Training and forklift operator safety training. Topics include: material handling equipment, information technology tools, receiving, order picking, shipping, inventory management, and storage.

Prerequisites: None

**SCM 115 Manufacturing Planning in Supply Chain Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on operational frameworks, challenges, and opportunities posed by supply chain management and sustainability trends. Topics include: demand forecasting, master production planning, lean production, push and pull production systems, capacity requirements planning, and inventory management.

Prerequisites: SCM 105

**SCM 120 Transportation Systems****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on laws, policies, and procedures related to transportation by ground, rail, air, and water. Topics include: planning, traffic management, environmental compliance, and relationships among suppliers, producers, and consumers.

Prerequisites: None

**SCM 191 Part-Time Cooperative Education 1: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**SCM 192 Part-Time Cooperative Education 2: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 191

**SCM 193 Part-Time Cooperative Education 3: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 192

**SCM 194 Part-Time Cooperative Education 4: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 193

**SCM 195 Part-Time Cooperative Education 5: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 194

**SCM 196 Part-Time Cooperative Education 6: Supply Chain Management****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 195

**SCM 205 Inventory Management and Control****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on inventory management and movement of materials. Topics include: independent and dependent demand methods, material management, manufacturing principles, predicting demand, just-in-time operations, quality control, and tracking and logistics technologies.

Prerequisites: SCM 105

**SCM 210 Procurement Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on procurement principles and practices. Topics include: strategic planning, quality control, purchasing laws and ethics, cost estimating, contract management, inventory control, and risk management.

Prerequisites: SCM 105

**SCM 290 Supply Chain Management Capstone****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

Students use case studies and simulations to examine the entire scope of Supply Chain Management, including functional and decision-making areas such as distribution, transportation, inventory management, procurement, and logistics.

Prerequisites: SCM 210

**SCM 291 Full-Time Cooperative Education 1: Supply Chain Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190 (minimum grade C)

**SCM 292 Full-Time Cooperative Education 2: Supply Chain Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 291

**SCM 293 Full-Time Cooperative Education 3: Supply Chain Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 292

**SCM 294 Internship 1: Supply Chain Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190

**SCM 295 Internship 2: Supply Chain Management****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SCM 294

# SET

## Courses

### SET 110 HTML for Programmers

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on client-side web development from a programmer's perspective. Topics include: HTML, JavaScript, cascading style sheets (CSS), the document object model (DOM), dynamic HTML (DHTML), and regular expressions.

Prerequisites: None

### SET 151 C Programming 1

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of the C computer programming language. Topics include: decision statements, loops, functions, arrays, strings, structures, pointers, and dynamic memory allocation.

Prerequisites: IT 102 and CPDM 120 (minimum grade C for both)

### SET 191 Part-Time Cooperative Education 1: Software Engineering Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### SET 192 Part-Time Cooperative Education 2: Software Engineering Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 191

### SET 193 Part-Time Cooperative Education 3: Software Engineering Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 192

### SET 194 Part-Time Cooperative Education 4: Software Engineering Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 193

### SET 195 Part-Time Cooperative Education 5: Software Engineering Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 194

### SET 196 Part-Time Cooperative Education 6: Software Engineering Technology

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 195

### SET 252 C Programming 2

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of SET 151, using the C++ computer programming language. Topics include: classes, object-oriented programming techniques, polymorphism, inheritance, encapsulation, pointers, memory management, overloading, templates, and advanced data structures.

Prerequisites: SET 151

### SET 253 C Programming 3

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of SET 252, using the C# computer programming language. Topics include: program design, database programming techniques using stored procedures, and views with SQL Server.

Prerequisites: IT 111 and SET 252

### SET 290 Software Engineering Technology Capstone

**3 Credits. 1 Lecture Hour. 4 Lab Hours.**

Students apply their programming and database skills to complete a software application.

Prerequisites: IT 103 and IT 111 and SET 252

### SET 291 Full-Time Cooperative Education 1: Software Engineering Technology

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### SET 292 Full-Time Cooperative Education 2: Software Engineering Technology

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 291

**SET 293 Full-Time Cooperative Education 3: Software Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 292

**SET 294 Internship 1: Software Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**SET 295 Internship 2: Software Engineering Technology****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: SET 294

## SOC

### Courses

**SOC 100 Survey of Social Issues****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of societal issues such as divorce, immigration, welfare, crime, terrorism, and other topics.

Prerequisites: None

**SOC 105 Introduction to Sociology****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and theories of contemporary sociology. Topics include: sociology as a science, culture, socialization, social change, deviance, and major social institutions such as family, religion, education, and government.

Prerequisites: ENG 085 or appropriate placement

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**SOC 110 Social Problems****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and theories related to social problems in contemporary society. Topics include: poverty, race, immigration, urbanization, aging, politics and economy, media and technology, and war and terrorism.

Prerequisites: SOC 105 and ENG 101

Ohio Transfer Assurance Guide Approved

**SOC 115 Marriage and the Family****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and theories related to marriage and family as social institutions. Topics include: historical perspectives on marriage, male and female roles, parenting, impact of family on the individual, and impact of society on marital roles.

Prerequisites: SOC 105 and ENG 101

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

**SOC 120 The African American Family****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on interdisciplinary concepts and theories related to contemporary African American families. Topics include: family life and social stratification; dynamics of middle class, working class, and low income families; and social and economic support structures for families.

Prerequisites: SOC 105 and ENG 101

**SOC 130 Sociology of Aging****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and theories of aging. Topics include: the aging process and the impact of an aging population on individuals and social institutions.

Prerequisites: SOC 105 and ENG 101

Ohio Transfer Module Approved

**SOC 140 Sociology of Gender****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and theories of gender. Topics include: development of sex roles, how sex roles affect individuals and social institutions, and changing role patterns in the United States and elsewhere.

Prerequisites: SOC 105 and ENG 101

Ohio Transfer Module Approved

**SOC 200 Race, Ethnicity, and Minorities****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts and theories of race and ethnicity within society. Topics include: the effects of prejudice and discrimination on individuals and social institutions.

Prerequisites: SOC 105 and six credits of English Composition

Ohio Transfer Assurance Guide Approved

## SPN

### Courses

**SPN 100 Spanish for the Professions****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that prepares non-Spanish-speaking students to use Spanish language commands and phrases related to their careers, and to understand cross-cultural concerns that affect interactions with native Spanish speakers. No prior knowledge of Spanish is necessary.

Prerequisites: None

**SPN 101 Elementary Spanish 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on Spanish language and culture that provides the foundation for understanding, speaking, reading, and writing Spanish.

Prerequisites: None

**SPN 102 Elementary Spanish 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of SPN 101. Topics include: developing skills in understanding, speaking, reading, and writing Spanish.

Prerequisites: SPN 101 or Spanish Department chair consent

**SPN 200 Spanish Conversation and Composition****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on developing fluency in conversational and written Spanish while examining contemporary topics relevant to diverse elements of Hispanic/Latino culture.

Prerequisites: SPN 102 or Spanish Department chair consent

**SPN 201 Intermediate Spanish 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of SPN 102. Topics include: developing fluency in Spanish grammar and syntax through reading short literary pieces, composition, and conversation.

Prerequisites: SPN 102 or Spanish Department chair consent

**SPN 202 Intermediate Spanish 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of SPN 201. Topics include: developing additional skills and fluency in Spanish through reading short literary pieces, composition, and conversation.

Prerequisites: SPN 201 or Spanish Department chair consent

**SPN 221 Spanish 1 for Business and Finance****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on developing fluency in Spanish grammar and syntax through reading, writing, and speaking about business and finance-related topics.

Prerequisites: SPN 102 or Spanish Department chair consent

**SPN 222 Spanish 2 for Business and Finance****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of SPN 221. Topics include: developing additional skills and fluency in Spanish through reading, writing, and speaking about business and finance-related topics.

Prerequisites: SPN 221 or Spanish Department chair consent

**SPN 290 Study Abroad Service Learning****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students participate in global cultural experiences through travel, service learning, and sustainable community development projects. Students must complete 20 hours of classroom activities prior to the group travel experience. Fluency in Spanish is desirable but not required.

Prerequisites: Minimum GPA of 2.0, and not on academic probation, and instructor consent

Instructor Consent Required

## SPT

### Courses

**SPT 100 Introduction to Sport Management****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the sport industry and the role of sport management. Topics include: the functions of sport in society, athletic administration, and educational and career pathways in sport management.

Prerequisites: ENG 085 or appropriate placement

**SPT 105 Sport in Society****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the scope and effect of sport and physical activity in society. Topics include: business of sport, media and sport, sporting behavior, diversity and sport, and women and sport.

Prerequisites: None

**SPT 110 Principles of Coaching****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the role of the coach and coaching in sport. Topics include: concepts, functions, and techniques related to coaching athletes in various team and individual sports.

Prerequisites: None

**SPT 115 Ethics in Sport****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on ethical concerns in the sport industry. Topics include: moral reasoning, values in sport, sportsmanship, and ethical dilemmas and legal issues in sport.

Prerequisites: SPT 100

**SPT 120 Sport Marketing****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on principles and techniques for sport marketing. Topics include: fundamental marketing concepts, advertising, public relations, sponsorships, promotions, and merchandizing.

Prerequisites: SPT 100

## ST

### Courses

**ST 100 Introduction to Surgical Technology****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on the history and development of surgical technology. Topics include: the perioperative environment, surgical instrumentation, the surgical technologist's role and attributes for success, professional organizations, and legal terms related to the profession.

Prerequisites: None

**ST 101 Surgical Foundations and Procedures 1****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A course on concepts and skills for surgical technology. Topics include: professional and workplace management; medical terminology; informatics; patient care; surgical asepsis and infection control; decontamination, disinfection, and reprocessing methods; instrumentation; sterile storage and distribution; basic pharmacology; anesthesia; specimen care; and surgical supplies and equipment.

Prerequisites: Admitted to the ST program through the selective enrollment process, and ST 100 and BIO 151 and MAT 105, and one FYE course (minimum grade C for all), and instructor consent  
Instructor Consent Required

**ST 102 Surgical Foundations and Procedures 2****6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A continuation of ST 101. Topics include: wound classifications; wound healing; tissue approximation; sutures; abdominal incisions; and procedural steps for abdominal wall hernia repairs, and gastrointestinal and accessory organs, breast, gynecological, obstetrical, and plastic/reconstructive surgery.

Prerequisites: BIO 152 and BIO 220 and ST 101 (minimum grade C for all), and ST 111

**ST 111 Surgical Principles and Practice 1****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course that prepares students to perform assistant circulating skills through activities conducted in a simulated operating room setting on campus.

Prerequisites: Admitted to the ST program through the selective enrollment process, and ST 100 (minimum grade of C), and instructor consent

Instructor Consent Required

**ST 112 Surgical Principles and Practice 2****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course that prepares students to perform first scrub role skills through activities conducted in a simulated operating room setting on campus.

Prerequisites: ST 101 (minimum grade C), and ST 111

**ST 181 Surgical Technology Clinical Skills Application 1****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

Students participate in uncompensated clinical experiences performing beginning-level assistant circulating skills in the operating room of an affiliate hospital, and attend a weekly seminar.

Prerequisites: ST 101 (minimum grade C), and ST 111

**ST 182 Surgical Technology Clinical Skills Application 2****2 Credits. 0 Lecture Hour. 6 Lab Hours.**

A continuation of ST 181. Students perform uncompensated beginning-level scrub skills during assigned operative procedures at an affiliate hospital. Students' skills are evaluated in relation to future employment.

Prerequisites: ST 102 (minimum grade C), and ST 112 and ST 181

**ST 201 Advanced Surgical Procedures 1****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A course on specialized surgical procedures. Topics include: otorhinolaryngology procedures including head/neck and oral maxillary surgery; and ophthalmic, genitourinary, and orthopedic surgery.

Prerequisites: ST 102 (minimum grade C), and ST 112 and ST 181

**ST 202 Advanced Surgical Procedures 2****4 Credits. 4 Lecture Hours. 0 Lab Hour.**

A continuation of ST 201. Topics include: perivascular, thoracic, cardiac, neurology, and transplant surgery, and pediatric procedures.

Prerequisites: ST 201 (minimum grade C), and ST 182

**ST 281 Surgical Technology Clinical Directed Practice 1****5 Credits. 1 Lecture Hour. 24 Lab Hours.**

Students demonstrate competency in scrub skills related to general and specialty operative procedures at an assigned affiliate hospital, and attend a weekly seminar on campus.

Prerequisites: ST 201 (minimum grade C), and ST 182

**ST 282 Surgical Technology Clinical Directed Practice 2****5 Credits. 1 Lecture Hour. 24 Lab Hours.**

A continuation of ST 281. Students demonstrate competency in scrub skills while performing assigned procedures at an affiliate hospital, and attend a weekly seminar on campus. Students must complete the National Board of Surgical Technology and Surgical Assisting (NBSTSA) certification examination as a course requirement.

Prerequisites: ST 202 (minimum grade C), and ST 281

# STFA

## Courses

**STFA 150 Perioperative Bioscience****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on concepts of perioperative bioscience. Topics include: advanced microbiology and pathology, surgical pharmacology, and anesthesia management.

Prerequisites: Admitted to the STFA Certificate Program  
Instructor Consent Required

**STFA 155 Principles of First Assisting****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the history and role of the first assistant. Topics include: performing perioperative functions; moral, ethical, and legal responsibilities; surgical interventions for specific patient groups; complications and surgical emergencies; and career options.

Prerequisites: Admitted to STFA Certificate Program  
Instructor Consent Required

**STFA 161 Surgical Specialties 1****7 Credits. 7 Lecture Hours. 0 Lab Hour.**

A course on the first assistant's role in a variety of surgical procedures. Topics include: general surgery; endoscopic procedures; and gynecological, obstetrical, genitourinary, plastic/reconstructive, otorhinolaryngologic, and pediatric procedures.

Prerequisites: STFA 150, STFA 155 (minimum grade C for both)

**STFA 162 Surgical Specialties 2****7 Credits. 7 Lecture Hours. 0 Lab Hour.**

A continuation of STFA 161. Topics include: orthopedic, ophthalmic, neurosurgical, perivascular, thoracic, cardiac, and pediatric surgical procedures.

Prerequisites: STFA 161 (minimum grade C)

**STFA 181 First Assisting Clinical 1****2 Credits. 1 Lecture Hour. 12 Lab Hours.**

Students complete an individualized clinical practicum to demonstrate manual and behavioral skills under the preceptorship of a surgeon at a facility of student's choice. Skills application includes: general surgery; and endoscopic, gynecological, obstetrical, genitourinary, plastic/reconstructive, otorhinolaryngologic, and pediatric procedures.

Prerequisites: STFA 150, STFA 155 (minimum grade C for both)

**STFA 182 First Assisting Clinical 2****2 Credits. 1 Lecture Hour. 12 Lab Hours.**

A continuation of STFA 181. Students must complete the required number of procedures, under the supervised preceptorship of a surgeon, in any combination of the following surgical specialties: pediatric, orthopedic, ophthalmic, neurosurgical, perivascular, thoracic, and cardiac surgical procedures.

Prerequisites: STFA 181

# SUR

## Courses

### **SUR 100 Introduction to Land Surveying**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on foundational concepts in land surveying. Topics include: Land Surveying program expectations and curriculum, career preparation, licensing, ethics, diversity, and OSHA regulations. Students use Microsoft Word, Excel, and PowerPoint to complete assignments.

Prerequisites: None

### **SUR 120 Computer Aided Design, Civil 3D, and Surveying Software**

**4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on applying advanced concepts of computer aided design, using Civil 3D and other surveying software.

Prerequisites: CET 115

### **SUR 221 Dendrology 1**

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A 7-week course on identification of commonly-encountered woody plants of southwestern Ohio, southeastern Indiana, and northern Kentucky, emphasizing use of botanical keys for identification during the summer season. Topics include: identifying markings and evidence of tree remnants to identify property corners and witness corners for land surveying.

Prerequisites: None

### **SUR 222 Dendrology 2**

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A 7-week course that is a continuation of SUR 221, emphasizing use of botanical keys for identification during the winter season while identifying commonly-encountered woody plants of southwestern Ohio, southeastern Indiana, and northern Kentucky.

Prerequisites: SUR 221

### **SUR 391 Part-Time Cooperative Education 1: Land Surveying**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking a bachelor's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### **SUR 420 Photogrammetry and Remote Sensing**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for photogrammetry and remote sensing. Topics include: laser scanning, data storage and usage, data sharing, unmanned aerial vehicles, and other current advanced surveying technologies.

Prerequisites: CET 277 and CET 287

### **SUR 465 Subdivision Design and Drainage Control**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for subdivision design and drainage control, emphasizing large land developments and site design.

Prerequisites: SUR 120 and CET 250

### **SUR 490 Land Surveying Capstone**

**3 Credits. 1 Lecture Hour. 6 Lab Hours.**

Students complete a field project that demonstrates integrated competencies in advanced surveying concepts and techniques, and review topics included in the National Council of Examiners for Engineering and Surveying (NCEES) Fundamentals of Surveying exam.

Prerequisites: CET 250 and CET 252 and CET 267

### **SUR 491 Full-Time Cooperative Education 3: Land Surveying**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking a bachelor's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

### **SUR 492 Full-Time Cooperative Education 4: Land Surveying**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking a bachelor's degree participate in their fourth full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

# SWK

## Courses

### **SWK 110 Introduction to Social Work**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the social work profession. Topics include: social work institutions, values, ethics, and modes of practice with varying systems and populations.

Prerequisites: ENG 101, SOC 105

Ohio Transfer Assurance Guide Approved

### **SWK 200 Social Welfare Policy**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on the relationships between policy, practice, and problem solving that contribute to delivery of social services to alleviate human suffering and promote social justice.

Prerequisites: SWK 110

Ohio Transfer Assurance Guide Approved

### **SWK 205 Case Management for Human Services Professionals**

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on theoretical concepts and professional skills for providing social services within the social welfare system.

Prerequisites: SWK 200

### **SWK 215 Human Services Practicum**

**2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Students spend at least seven hours per week in a supervised experience in a social service setting.

Prerequisites: SWK 110



# TBE

## Courses

### **TBE 101 Introduction to Incident Management Operations** **1 Credit. 1 Lecture Hour. 0 Lab Hour.**

This course based on NFPA Standards 1026 & 1670. This is an introductory course on Incident Management Operations Topics include: Hazard Identification and Risk Assessment, Incident Response Planning, roles and responsibilities of Incident Command System staff officers, FEMA NIMS, rescue operations strategy & tactics, and responder safety  
Prerequisites: None

### **TBE 102 Rope Rescue Operations** **2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course based on NFPA Standards 1006 and 1670. Topics include: rope design, rescue knots, anchoring systems, mechanical advantage, load calculations, rappelling, and vertical rescue techniques.  
Prerequisites: None

### **TBE 103 Water Search and Rescue Operations** **2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course based on NFPA standards 1006 and 1670 for Swift Water Rescue operations to rescue victims from a hazardous water environment. Topics include: using rescue lines, tactics of rescue swimming operations, water-rope operations, and rescue boat operations.  
Prerequisites: None

### **TBE 104 Permit-Required Confined Space Entry and Rescue** **2 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on entry and rescue operations pertaining to permit-required confined spaces. Topics include: confined space entry techniques, air monitoring, rescue equipment, and rescue techniques.  
Prerequisites: None

### **TBE 105 Search and Rescue Operations** **1 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course based on NFPA Standards 1006 and 1670 for Search and Rescue Operations to search for lost individuals in a rural or wilderness environment. Topics include: search operations tactics, map reading, land navigation, use of GPS, helicopter search operations, and search dogs.  
Prerequisites: None

### **TBE 106 Trench Rescue Operations** **2 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on trench rescue operations as outlined in the 1006 & 1670 NFPA standards. Topics include: soil typing, trench safety, trench shoring, rescue equipment, air monitoring, victim packaging and extrication and rescue strategy techniques.  
Prerequisites: None

### **TBE 107 Structure Collapse Rescue** **2 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on FEMA and NFPA structural collapse rescue standard. Topics include: building design, civil engineering principles, structural shoring, structural concrete, and rescue techniques.  
Prerequisites: None

### **TBE 108 Vehicle Extrication Operations** **1 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course, based on NFPA Stanrads 1006 & 1670, on vehicle design and entrapped victim rescue techniques. Topics include: truck, car and bus design; pneumatic and hydraulic equipment; structural shoring; and victim stabilization and extraction.  
Prerequisites: None

### **TBE 109 Machinery Rescue Operations** **1 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course based on NFPA Standards 1006 & 1670. Machinery rescue techniques involving victims trapped in machinery. Topics include: design and operations, crushed and amputations, victim extractions, pneumatic and hydraulic tools, and use of pneumatics and hydraulic rescue equipment.  
Prerequisites: None

# TC

## Courses

### **TC 205 Scriptwriting: Short Forms** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing scripts for short form electronic media messages such as commercials and public service announcements. Topics include: analyzing audiences and products; conducting research; preparing copy platforms, scripts, and storyboards; and persuasively presenting concepts.  
Prerequisites: MKT 115 and 6 credits of English Composition (minimum grade C for all)

### **TC 210 Scriptwriting: Long** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing scripts for long form electronic media messages such as instructional and promotional video and documentaries. Topics include: analyzing audiences and products; conducting research; preparing documentation, scripts, and storyboards; and persuasively presenting concepts.  
Prerequisites: MKT 115 and 6 credits of English Composition (minimum grade C for all)

### **TC 215 Copywriting** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing promotional messages for print and online distribution. Topics include: analyzing audiences and products, conducting research, developing concepts, preparing copy platforms, selecting writing styles and formats, and designing materials.  
Prerequisites: MKT 115 and 6 credits of English Composition (minimum grade C for all)

### **TC 220 Instructional Writing** **3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing instructional materials for print and multimedia distribution. Topics include: analyzing audiences and tasks; creating and revising content; and applying best practices for print, online, and digital document design.  
Prerequisites: 6 credits of English Composition, and IM 111 (minimum grade C for all)

**TC 225 Proposal Writing****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing effective proposals to obtain project funding. Topics include: developing strategy; conducting research; interpreting requirements; and organizing, designing, and writing proposals. Prerequisites: 6 credits of English Composition and IM 111 (minimum grade C for all)

**TC 230 Writing Online Content****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on developing content for websites and Web-supported publishing such as blogs and e-newsletters. Topics include: analyzing audiences and goals, selecting writing styles, creating and revising content, and applying best practices for online and digital document design.

Prerequisites: 6 credits of English Composition and WEB 111 (minimum grade C for all)

**TC 235 User Experience Design and Usability Assessment****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on concepts and techniques for designing and testing online products used by varied audiences. Topics include: principles of user experience design, developing qualitative and quantitative test materials, implementing tests, and reporting on test results.

Prerequisites: 6 credits of English Composition and WEB 111 (minimum grade C for all)

**TC 240 Technical Editing****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on editorial concepts and techniques. Topics include: editorial roles, editorial assessment processes, levels of edit, traditional and digital copymarking, and stylebooks and editorial resources.

Prerequisites: 6 credits of English Composition and IM 111 (minimum grade C for all)

## TEC

### Courses

**TEC 110 Nurse Aide Train-the-Trainer****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A state-approved course for nurses teaching either the classroom or clinical supervision portions of an approved Training and Competency Evaluation program for long-term care Nurse Aides.

Prerequisites: None

## TEM

### Courses

**TEM 105 Installation of Solar Thermal Systems****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course for individuals seeking to become installers of solar thermal systems. Topics include: fundamental concepts of solar thermal systems; and design, installation, troubleshooting, and commissioning of systems.

Prerequisites: None

**TEM 107 Install Photovoltaic Sys****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts and techniques for installing solar photovoltaic (PV) systems. Topics include: designing PV systems and safely installing solar-electric systems. This course prepares students for the NABCEP PV Entry Level Certificate of Knowledge exam.

Prerequisites: None

**TEM 110 Electrical Systems****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

An course on electrical systems found in a manufacturing facility. Topics include: motors and motor control, meters and testing devices, power distribution, and electrical systems.

Prerequisites: None

**TEM 115 Electrical Safety****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on electrical safety issues based on NFPA 70E. Topics include: electrical hazards, comparison of qualified and non-qualified workers, lockout/tagout, safe electrical work practices, and PPE.

Prerequisites: None

**TEM 120 Industrial Electricity for AC and DC Circuits****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on fundamental concepts and safe maintenance techniques used when working with electrical devices and applications.

Prerequisites: None

**TEM 125 Industrial Electronic Devices****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on theory, operation, application, and troubleshooting of solid-state devices used in industrial equipment and controls. Topics include: semi-conductors; transistors as switches; and amplifiers, SCRs, LEDs, and integrated circuits.

Prerequisites: None

**TEM 130 Electrical Control System Devices****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on the devices typically found in an industrial control panel, including relays, timers, contactors, terminal blocks, and control transformers.

Prerequisites: None

**TEM 140 Electrical Ladder Diagrams and Print Reading****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on concepts and skills needed to interpret electrical prints and construct electrical ladder diagrams.

Prerequisites: None

**TEM 150 Industrial Power Systems****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on concepts and skills for working with modern power distribution systems. Topics include: transformers, circuit protection, 1-line diagrams, grounding, switch gears, and electrical safety.

Prerequisites: None

**TEM 160 Motors, Motor Controls, and Drives****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course for maintenance personnel involved in selection, installation, and troubleshooting of industrial 480 three-phase motors, controls and frequency drives. Topics include: control circuits, overload protection, and auxiliary control devices.

Prerequisites: None

**TEM 165 Motion Control Devices and Systems****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course for the industrial electrician or electrical maintenance technician responsible for installing or troubleshooting motion control devices. Topics include: types and applications of motion control devices used in industry.

Prerequisites: None

**TEM 170 Sensors for Industrial Control Systems****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course for maintenance personnel covering selection, installation, and troubleshooting of discrete and analog sensors commonly found in manufacturing operations. Topics include: limit switches, pressure switches, proximity switches, photo eye sensors, process sensors with analog outputs, and motion sensors.

Prerequisites: None

**TEM 175 Variable Frequency Drives****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on application, selection, installation, programming, and troubleshooting of Variable Frequency Drives (VFDs) used in industry. Topics include: test equipment and motor controls; hardware identification; and determining parameter values for load, torque, and speed.

Prerequisites: None

**TEM 180 Programmable Logic Controllers 1****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on operation, installation, basic programming, and troubleshooting of programmable logic controllers (PLCs) using Allen Bradley SLC-500 and CompactLogix PLCs.

Prerequisites: None

**TEM 185 Programmable Logic Controllers 2****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of TEM 180, emphasizing techniques used by electricians or instrument technicians who install and troubleshoot advanced PLCs. Topics include: advanced and special program instruction, Human-Machine Interface (HMIs), and communication networks.

Prerequisites: TEM 180

**TEM 190 Troubleshooting Industrial Electrical Equipment****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on systematic approaches for troubleshooting electrical equipment used in industry.

Prerequisites: None

## THE

### Courses

**THE 105 Theater Appreciation****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of theater as a mode of human expression. Topics include: script analysis, acting styles, directing, and design elements and how these elements contribute to a successful production. Attending one live production is required.

Prerequisites: ENG 085 (minimum grade C) or appropriate placement  
Ohio Transfer Module Approved**THE 110 History of Theater****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study of the history of Western theater from classical antiquity through contemporary times and examination of each period's contribution to modern theatrical practices. Out-of-class viewing of plays on video is required.

Prerequisites: ENG 101

Ohio Transfer Module Approved

**THE 115 Acting****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

Study and practice of creative expression through acting. Topics include: theatrical vocabulary, movement and vocal skills, and preparing for roles through script analysis.

Prerequisites: None

**THE 140 Oral Interpretation of Literature****3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on basic techniques for oral performance of literature. Topics include: content analysis of texts, movement and vocal skills, and performance in everyday lives.

Prerequisites: ENG 101

**THE 240 Performance Practicum****2 Credits. 1 Lecture Hour. 7 Lab Hours.**

Study and application of performance principles through faculty-supervised participation in a College production. May be repeated for credit.

Prerequisites: THE 140 or instructor consent

## THZ

### Courses

**THZ 101 First Responder-OSHA HAZMAT Operations Level****0.5 Credits. 0.5 Lecture Hour. 0 Lab Hour.**

This course is designed to meet the basic operations level to be a hazardous materials (HAZMAT) First Responder. Course topics focus on basic hazard recognition/risk assessment and defensive spill containment techniques. This course is designed to meet the OSHA, USEPA, USDOT, & NFPA training requirements for individuals who handle and/or exposed to hazardous substances. A hazardous substance includes hazardous materials and hazardous wastes.

Prerequisites: None

**THZ 103 HAZMAT (HAZWOPER) Annual Refresher****0.5 Credits. 0.5 Lecture Hour. 0 Lab Hour.**

A course that meets the annual refresher training requirements for individuals who perform environmental clean-up remediation work at sites regulated by federal and state environmental protection agencies. This course also meets the OSHA 29 CFR 1910.120 (HAZWOPER) standard and NFPA Standard 472 for Professional Qualifications for Hazardous Materials Responders.

Prerequisites: None

**THZ 104 OSHA 24-Hour HAZMAT (HAZWOPER) I Technician****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on defensive and offensive measures that stop and contain hazardous substance spills and releases. Topics include: USDOT HAZMAT labeling, air monitoring, DECON operations, respiratory protections, and spill control. This course meets the OSHA, EPA, NFPA and DOT training requirements for individuals who handle and/or are exposed to hazardous material and hazardous waste.

Prerequisites: None

**THZ 105 OSHA 40-Hour HAZMAT (HAZWOPER) Workshop  
3 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course for individuals who will perform hazardous materials response activities at the HAZMAT Technician level, and for personnel involved with investigation and remediation of hazardous waste sites and "Brown Fields" at the General Site Worker Level. This course meets regulatory requirements of OSHA 29 CFR 1910.120 and 29 CFR 1926.62 (Hazardous Waste Operations and Emergency Response), NFPA Standard 472, and USEPA 40 CFR 311.

Prerequisites: None

Instructor Consent Required

**THZ 106 On-Scene Hazardous Materials and All Hazards Incident Command Workshop**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on duties and responsibilities of an On-Scene Incident Commander for all types of hazardous materials and critical incidents. Topics include: National Incident Management System (NIMS), OSHA and FEMA risk assessment, emergency response planning, and HAZMAT strategy and tactics.

Prerequisites: None

**THZ 110 Basic Hazardous Materials Chemistry**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A basic chemistry course specifically designed to assist emergency services and safety professionals who manage or respond to a hazardous material (HAZMAT) event. Topics include: atomic structures, chemical elements, periodic table, chemical bonding, chemical reactions and HAZMAT chemical terminology.

Prerequisites: None

**THZ 120 Disaster Preparedness and Business Continuity Planning**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that provides the private and public sector management, emergency services, or safety professional an in-depth understanding of management issues involved in disaster planning and an organization's ability to restore normal business operations. Topics include: emergency response plans, risk assessment, crisis management teams, business continuity planning, and continuity of operations. The course materials are based on Department of Homeland Security (DHS) and NFPA 1600-Business Continuity Planning.

Prerequisites: THZ 110

**THZ 130 Radiological and Biological Emergency Preparedness Planning**

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for emergency services or safety professionals, US military personnel, or private sector risk managers on radiological and biological incidents and their consequences. Topics include: terminology, the National Response Framework (NRF) Plan, biological threats, damage assessment, and containment and recovery protocols.

Prerequisites: None

Instructor Consent Required

**THZ 140 Introduction to WMD Terrorism  
2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for emergency services and safety professionals and private sector safety and emergency management professionals on terrorism and employment of weapons of mass destruction (WMD). Topics include: counter-terrorism and anti-terrorism techniques employed by US federal agencies and the US Department of Defense; and use of chemical, biological, radiological, nuclear, and explosives in a terrorist incident.

Prerequisites: None

Instructor Consent Required

**THZ 141 Consequences of Terrorism  
2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for emergency services or safety professionals on understanding how terrorists plan and execute an attack. Topics include: history of terrorism, terrorist tactics and operations, case studies of terrorist attacks, and cultural and political awareness.

Prerequisites: TBE 101

Instructor Consent Required

**THZ 150 Disaster Modeling**

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course for emergency services or private sector safety professionals on the computer modeling systems used to conduct "plume" analysis. Topics include: CAMEO (Computer-Aided Management of Emergency Operations), GIS (Geographic Information Systems), WISER (Wireless Information System for Emergency Responders) HAZMAT (Hazardous Material) Response Planning, Emergency Operation Centers, and integration of modeling software into the Common Operating Picture.

Prerequisites: None

Instructor Consent Required

**THZ 160 Crisis Media Relations**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course for the public and/or private sector spokesperson or public affairs officer on media relations and operations during a crisis. Topics include: types of media, public information officer duties and responsibilities, press kits, media plans, and press briefings.

Prerequisites: None

Instructor Consent Required

## TOS

### Courses

**TOS 101 Work Zone Safety**

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

"This course is designed to provide an initial and basic overview of key OSHA 29 CFR Parts 1900-1910 General Industry Safety Standards. It is important to remember that this course shall provide only the basics on Occupational Safety. The course is designed for both the worker and novice safety professional."

Prerequisites: None

Instructor Consent Required

**TOS 102 Hoisting and Material Handling Safety****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

"This course is designed to provide the basic knowledge on how to develop an organization's safety program based on the OSHA General Industry regulations; 29 CFR Parts 1900-1910. The overall objective of this course is for the student to obtain the knowledge to develop and administer a comprehensive safety program, it is crucial for a safety professional or a member of management to know where to look and how to apply specific OSHA regulations that effect your organization."

Prerequisites: None

Instructor Consent Required

**TOS 110 OSHA 10-Hour General Industry Safety and Health Training Course****1 Credit. 0.5 Lecture Hour. 0 Lab Hour.**

A course for industrial workers and novice safety professionals on basic concepts of the OSHA General Industry Safety Standards.

Prerequisites: None

**TOS 111 Osha 30 Hour General Industry Safety and Health Training Course****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on concepts and techniques needed to develop and administer a comprehensive safety program for an organization. Topics include: applying OSHA regulations that affect the organization.

Prerequisites: None

**TOS 115 OSHA Permit-Required Confined Space Ent****0.5 Credits. 0.5 Lecture Hour. 0 Lab Hour.**

A course on hazards associated with OSHA permit-required confined space entry operations. Topics include: types of confined spaces, lockout/tagout requirements, air monitoring, and equipment for entry.

Prerequisites: None

**TOS 117 OSHA Confined Space Entry and Basic Rescue (Awareness Level)****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course for individuals who enter and work in an OSHA classified Permit Required Confined Space. Topics include: OSHA Permit Required Confined Space Program requirements, air monitoring, respiratory protection, lockout-tagout, and confined space entry and rescue equipment.

Prerequisites: None

**TOS 120 Fall Protection and Scaffolding Safety****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on the OSHA requirements for scaffold and fall protection safety at a constructional and general industry work site, as covered in OSHA 29 CFR 1926 Subparts L and M. Topics include: scaffold inspection techniques, and selecting and using fall protection equipment.

Prerequisites: None

**TOS 121 Excavation Safety****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on requirements governing excavation and trenching operations, as covered in OSHA 29 CFR 1926 Subpart P. Topics include: soil mechanics in relation to stability of shored and unshored slopes and walls of excavations, types of shoring (wood timbers and hydraulic), and soil testing methods.

Prerequisites: None

**TOS 122 Work Zone Safety****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on concepts and techniques of work zone safety. Topics include: work zone design, construction, operations, and maintenance; and the Manual on Uniform Traffic Control Devices.

Prerequisites: None

**TOS 123 Hoisting and Material Handling Safety****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on safety considerations in hoisting and material handling operations, as covered in OSHA 29 CFR 1926 (Cranes and Material Handling).

Prerequisites: None

**TOS 124 Electrical Safety****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on requirements governing electrical safe work practices at construction and manufacturing sites, as covered in OSHA 29 CFR Part 1926 and in National Fire Protection Standards 70 and 70 E.

Prerequisites: None

**TOS 130 Safety Trainer and Training Management****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course to train instructors in methods used to teach employees safety practices and to develop safety training programs. Topics include: the adult learning model, teaching methods for adult learners, needs assessment, course and program design, student assessment methods, and documentation and record Keeping. The course is based on criteria from American National Standards (ANSI) Z 490.1-2009.

Prerequisites: None

**TOS 289 Year 2 Special Topics in Occupational Safety & Regulatory Compliance****0.5-4 Credits. 0 Lecture Hour. 0 Lab Hour.**

An advanced course on selected topics related to Occupational Safety & Regulatory Compliance that gives students opportunities to study information not currently covered in other courses.

Prerequisites: None

Instructor Consent Required

## TPI

### Courses

**TPI 110 Process Control and Instrumentation 1: Pressure Control****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on foundation concepts related to process controls and instrumentation. Topics include: controllers, transmitters, variable frequency drives (VFDs) and control valves, and automatic control techniques. Laboratory exercises include loop wiring, calibration, controller configuration, and troubleshooting.

Prerequisites: None

**TPI 120 Process Control and Instrumentation 2: Temperature Control****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of TPI 110. Topics include: control of temperature and pressure. Activities include laboratory exercises and computer simulations.

Prerequisites: TPI 110

**TPI 130 Process Control and Instrumentation 3: Level and Flow**  
**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of TPI 120. Topics include: control of level and flow, installation, calibration, configuration, and troubleshooting. Activities include laboratory exercises.

Prerequisites: TPI 120

**TPI 140 Process Control and Instrumentation 4: Final Control**  
**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of TPI 130. Topics include: industry use of final control units; and how to select, install, configure, and troubleshoot pneumatic control valves and variable frequency drives (VFDs). Activities include laboratory exercises.

Prerequisites: TPI 130

**TPI 150 Process Control and Instrumentation 5: Analytical Control**  
**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of TPI 140. Topics include: control of analytical and measurement processes such as ORP, pH, conductivity, and chromatography. Activities include laboratory exercises.

Prerequisites: TPI 140

## WEB

### Courses

**WEB 111 Web Development 1**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to website design using CSS and HTML5.

Prerequisites: None

**WEB 112 Web Development 2**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of WEB 111. Topics include: advanced use of cascading style sheets, and ensuring multi-platform and cross-browser usability of websites.

Prerequisites: WEB 111 (minimum grade C)

**WEB 130 Web Programming: JavaScript**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamentals of the JavaScript scripting language.

Prerequisites: WEB 111 (minimum grade C)

**WEB 191 Part-Time Cooperative Education 1: Web & Multimedia Design**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**WEB 192 Part-Time Cooperative Education 2: Web & Multimedia Design**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 191

**WEB 193 Part-Time Cooperative Education 3: Web & Multimedia Design**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 192

**WEB 194 Part-Time Cooperative Education 4: Web & Multimedia Design**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 193

**WEB 195 Part-Time Cooperative Education 5: Web & Multimedia Design**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 194

**WEB 196 Part-Time Cooperative Education 6: Web & Multimedia Design**

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 195

**WEB 200 Web Design Portfolio Review**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An assessment of skills required to enter upper-level courses in the Web & Multimedia Design program, including a technical skills exam and presenting a portfolio to a panel of evaluators. Students receive grades of Satisfactory or Unsatisfactory, and must pass the course to be eligible for cooperative education assignments. Those who do not pass may make one additional attempt.

Prerequisites: Web Multimedia Design Program Chair consent

**WEB 220 Animated and Interactive Web Content**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on professional techniques for using Adobe Flash. Topics include: animating, creating and manipulating images; and creating interactive websites and menus.

Prerequisites: WEB 111 (minimum grade C)

**WEB 225 Applied 2D Graphics: Web Design**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applications of 2D graphics techniques for raster-based and vector-based software, focusing on creating 2D graphics for web and multimedia applications.

Prerequisites: GRD 120 and GRD 130 and WEB 111 (minimum grade C for all)

**WEB 230 Applied 2D Graphics: Web Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on applications of 2D graphics techniques for raster-based and vector-based software, focusing on creating 2D graphics for web and multimedia applications.

Prerequisites: GRD 120 and GRD 130 and WEB 111 (minimum grade C for all)

**WEB 235 Responsive Web Design****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on designing websites using a responsive web design approach to provide optimal viewing experiences across a range of devices including mobile phones, tablets, laptop and desktop computers. Topics include: fluid proportion-based grids, flexible images, and CSS3 media queries.

Prerequisites: WEB 112

**WEB 240 Web Development: Advanced Topics****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on current concepts and techniques used in web design. Topics include: content management systems, and mobile applications.

Prerequisites: WEB 112 (minimum grade C)

**WEB 285 Web & Multimedia Design Independent Final Project****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work individually or with an approved team from concept to completion on a web and multimedia design project, and present the results to reviewers. Topic and outline must be presented to a jury of instructors, and approved prior to course registration. Students who do not successfully complete the course may make one additional attempt.

Prerequisites: Web Design Program Chair consent, and minimum 3.0 GPA

Instructor Consent Required

**WEB 290 Web & Multimedia Design Capstone****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

Qualified students work in structured teams to develop web and multimedia deliverables for an external client, and present the results to reviewers. Activities include audience, client, and market analysis; and all phases of production of materials. Students who do not successfully complete the course may make one additional attempt.

Prerequisites: Web Multimedia Design Program Chair consent, and minimum 2.5 GPA

Instructor Consent Required

**WEB 291 Full-Time Cooperative Education 1: Web & Multimedia Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**WEB 292 Full-Time Cooperative Education 2: Web & Multimedia Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit.

Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 291

**WEB 293 Full-Time Cooperative Education 3: Web & Multimedia Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 292

**WEB 294 Internship 1: Web Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: MID 190, WEB 200

**WEB 295 Internship 2: Web Design****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WEB 294

## WLD

### Courses

**WLD 100 Fundamentals of Welding****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental principles of welding and joining processes. Topics include: oxy-acetylene welding and cutting techniques, plasma cutting, track cutting, and welding safety.

Prerequisites: None

**WLD 101 Applied Welding Processes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course for non-welding majors who want to apply basic welding skills for art, hobbies, or other personal uses. Topics include welding safety, theory, operating principles, and equipment; and techniques for Gas Metal Arc Welding (GMAW), Shielded Metal Arc Welding (SMAW), and metal cutting processes.

Prerequisites: None

**WLD 105 Print Reading and Weld Design****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on interpreting various types of prints used in the welding industry. Topics include: print reading, measurements, types of welds and joints, welding symbols, technical math, and metric conversions.

Prerequisites: MAT 093 or appropriate placement

**WLD 111 Shielded Metal Arc Welding 1****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on techniques and operations associated with Shielded Metal Arc Welding (SMAW). Topics include: SMAW theory and operating principles, all-position welding of groove welds, and fillet welding using electrodes E6010, E6013, and E7018.

Prerequisites: WLD 100

**WLD 112 Shielded Metal Arc Welding 2**  
**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A continuation of WLD 111 covering techniques and operations associated with Shielded Metal Arc Welding (SMAW). Topics include: all-positions open V-groove welds on plate, and fillet welds.  
 Prerequisites: WLD 111

**WLD 115 Gas Metal Arc Welding and Flux Cored Arc Welding**  
**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on welding techniques associated with Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW). Topics include: theory, operating principles, equipment, and accessories; GMAW spray transfer techniques; and FCAW-G/GM (dual shielded) and FCAW-S (self-shielded) operations.  
 Prerequisites: None  
 Corequisites: WLD 100

**WLD 191 Part-Time Cooperative Education 1: Welding**  
**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: WLD 115

**WLD 192 Part-Time Cooperative Education 2: Welding**  
**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: WLD 191

**WLD 193 Part-Time Cooperative Education 3: Welding**  
**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: WLD 192

**WLD 194 Part-Time Cooperative Education 4: Welding**  
**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: WLD 193

**WLD 195 Part-Time Cooperative Education 5: Welding**  
**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: WLD 194

**WLD 196 Part-Time Cooperative Education 6: Welding**  
**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.  
 Prerequisites: WLD 195

**WLD 210 Gas Tungsten Arc Welding**  
**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on techniques and operations associated with Gas Tungsten Arc Welding (GTAW). Topics include: GTAW theory, machines and set up, GTAW welding on non-ferrous and ferrous materials, and GTAW all-positions welding.  
 Prerequisites: WLD 100

**WLD 220 Metal Fabrication**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on metal fabrication techniques used in industry. Topics include: thermal cutting; oxy-fuel gas cutting; plasma arc cutting; basic metal fabrication, layout, assembly, and fit-up; and heat distortion effects.  
 Prerequisites: WLD 105 and WLD 115

**WLD 231 Pipe Welding 1**  
**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on basic techniques associated with pipe welding operations. Topics include: pipe welding theory; pipe welding positions, layout, and preparation; and welding in the 2G and 5G positions with electrodes E6010 and E7018.  
 Prerequisites: WLD 111

**WLD 232 Pipe Welding 2**  
**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A continuation of WLD 231 covering techniques associated with pipe welding operations. Topics include: pipe welding theory and nomenclature; safety; advanced pipe welding positions, layout, and preparation; and welding in the 5G and 6G positions using shielded metal arc welding (SMAW) and gas tungsten arc welding (GTAW) processes.  
 Prerequisites: WLD 231

**WLD 250 Welding Inspection and Codes**  
**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on welding techniques as applied to the American Welding Society Structural Steel Code D1.1. Topics include: weld discontinuities, visual examination, intermediate layers, completed welds, and required documentation. Students perform welder qualification tests and practice inspecting weld defects.  
 Prerequisites: WLD 111

**WLD 260 Weldability of Metals**  
**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on properties of metals that affect weldability. Topics include: carbon steels, low alloy steels, tool steels, and stainless steels; cast iron and non-ferrous metals; processes including pre-heating, post-heating, annealing, normalizing, and hardening; repair welding techniques; and Rockwell hardness testing.  
 Prerequisites: WLD 100



**WLD 291 Full-Time Cooperative Education 1: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 100

**WLD 292 Full-Time Cooperative Education 2: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 291

**WLD 293 Full-Time Cooperative Education 3: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 292

**WLD 294 Internship 1: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 100

**WLD 295 Internship 2: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 294

# Workforce Development Center

In collaboration with the academic divisions of the College, the Workforce Development Center at Cincinnati State offers several programs and courses that allow students to earn college credit while also gaining technical career skills.

In addition to the credit-bearing programs and courses described in this Catalog, the Workforce Development Center offers a wide range of specialized workforce education and training programs that meet the needs of corporations, government agencies, and not-for-profit agencies.

The Workforce Development Center offers these college-credit certificates:

- Additive Manufacturing Technician Certificate (ADMTC) (p. 514)
- Child Development Associate (CDA) Credential (complete courses ECE 111 & ECE 112 (p. 432))
- Disaster Response Management Certificate (HAZC) (p. 515)
- Industrial Controls and Instrumentation Certificate (ICIC)
- Industrial Electrical Maintenance Certificate (IEMC)
- Machine Maintenance Certificate (MMCC)
- Manufacturing Machine Operation Certificate, Level 1 (MMOC1)
- Manufacturing Machine Operation Certificate, Level 2 (MMOC2)
- Paramedic Certificate (EMTPC)
- Programmable Logic Controllers Certificate (PLCC)
- State-Tested Nurse Aide / Nurse Aide Training Certificate (NATC)

For more information about these certificates and many other short-term training programs provided by the Workforce Development Center, call (513) 569-1643 or toll-free (888) 569-1709, or visit the Workforce Development Center (<https://www.cincinnati-state.edu/academics/workforce-development-center/>) section of the College website.

## Additive Manufacturing Technician Certificate (ADMTC)

### Additive Manufacturing Technician Certificate (ADMTC)

The Additive Manufacturing Technician Certificate prepares students for positions in industries that use additive (3-D printing) technology, including aerospace, consumer products, medical, and transportation.

Students gain knowledge and skills needed to operate and troubleshoot additive equipment and use metal, thermoplastics, and other additive materials. Students also gain technical skills needed for process design and material specification, as well as thorough understanding of safety and environmental protocols required for each substrate.

Students who earn the certificate may choose to continue their education in the Applied Technology Specialist associate's degree program.

For more information call the Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709.

## Additive Manufacturing Technician Certificate (ADMTC)

### First Year

Semester 1		Lec	Lat	Credits
MMC 105	Shop Math	1	0	1
MMO 110	OSHA General Industry Safety	1	0	1
Semester 2				
MMO 111	Mechanical Plan Reading 1	2	0	2
MMO 210	Additive Manufacturing and Machine Operation Fundamentals	2	2	3
Semester 3				
MMO 220	Applied Project in Additive Manufacturing	1	3	2
MMO 215	Industrial Applications of Additive Manufacturing	2	4	4
Total Credits:		9	9	13

## Faculty

### For more information:

Contact Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709

## Courses

### MMO 110 OSHA General Industry Safety

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course for machine operators and first-line supervisors on key OSHA General Industry Safety Standards.

Prerequisites: None

### MMO 111 Mechanical Plan Reading 1

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of using and interpreting mechanical drawings and blueprints for geometric dimensioning, tolerances, and precision measurement required for manufacturing mechanical parts and assemblies.

Prerequisites: None

### MMO 112 Mechanical Plan Reading 2

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of MMO 111. Topics include: interpretation of software-depicted mechanical drawings, symbols, and renderings for CNC manufacturing of detailed mechanical parts and assemblies.

Prerequisites: MMO 111

### MMO 120 Mechanical Machining

**3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on manual machining operations such as drilling, tapping, boring, turning, and conventional milling and lathe work.

Prerequisites: None

### MMO 125 Introduction to CNC

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on setup, piece placement, data input, and operation of a computer numeric controlled (CNC) machine.

Prerequisites: None

**MMO 130 Statistical Process Control Fundamentals****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on statistical process control (SPC) and lean quality processes. Topics include: continuous improvement methods for reducing errors, eliminating defective parts/products, and lowering costs through reduced waste.

Prerequisites: None

**MMO 135 CNC Programming Fundamentals****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on using a computer to write CNC machine G and M code. Topics include: using multiple tools; cutter offsets; linear, circular and helical interpolation; and matching surfaces along lines and points of tangency to produce a part.

Prerequisites: MMO 125

**MMO 136 Computer-Aided Drafting (CAD) for Manufacturing****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental techniques for using SolidWorks computer-aided drafting (CAD) software. Topics include: standards and conventions of engineering drawings, and generating 3-D solid objects using SolidWorks.

Prerequisites: None

**MMO 137 Computer-Aided Manufacturing (CAM)****1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental techniques for using Mastercam software to develop a mechanical drawing of a machine component. Topics include: creating geometry and toolpaths; and importing, positioning, and creating toolpaths for solid models using Mastercam.

Prerequisites: None

**MMO 140 CNC Tooling and Maintenance****2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on inspecting and diagnosing CNC machine and tooling parts, making routine adjustments, and taking steps to correct operations and put tooling back in service.

Prerequisites: MMO 125

**MMO 150 CNC Modeling and Programming****2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on writing a computer program to produce a multi-plane part shown on a blueprint or plan by using a CNC mill and lathe.

Prerequisites: MMO 135

**MMO 210 Additive Manufacturing and Machine Operation Fundamentals****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to additive manufacturing and design of 3D printing parts using parametric CAD software. Topics include: history of additive manufacturing, the production cycle, machine subsystems, measurement practices, and operations safety. Lab activities use additive equipment, software, and materials including polymer filaments in fused deposition modeling.

Prerequisites: MMO 110

**MMO 215 Industrial Applications of Additive Manufacturing****4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on 3D printing processes, materials, and design used in additive manufacturing. Topics include: creating advanced computer-generated drawings using CAD software for materials with lattice structures, and defining manufacturing process parameters. Students take field trips to additive facilities to learn to use industrial equipment for metal 3D printing.

Prerequisites: MMO 210

**MMO 220 Applied Project in Additive Manufacturing****2 Credits. 1 Lecture Hour. 3 Lab Hours.**

Students work in teams and use knowledge and skills gained in previous Additive Manufacturing (AM) courses to complete a project that produces a finished AM product and documents the production process. Topics include: project management fundamentals, statistical analysis for AM processes, technical writing, and AM design techniques.

Prerequisites: MMO 215

## Disaster Response Management Certificate (HAZC)

### Disaster Response Management Certificate (HAZC)

This training program is designed to meet the needs of emergency services personnel (fire, law enforcement, and emergency management) and private/public sector managers responsible for all types of emergency planning and response operations.

The courses are designed to meet the National Incident Management Systems (NIMS) standard for planning and response to an All-Hazards Emergency.

For more information call the Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709.

### Disaster Response Management Certificate (HAZC)

Semester 1		Lec	Lat	Credits
TBE 101	Introduction to Incident Management Operations	1	0	1
THZ 110	Basic Hazardous Materials Chemistry	1	0	1
THZ 130	Radiological and Biological Emergency Preparedness Planning	2	0	2
THZ 140	Introduction to WMD Terrorism	2	0	2
Semester 2				
THZ 120	Disaster Preparedness and Business Continuity Planning	2	0	2
THZ 141	Consequences of Terrorism	2	0	2
THZ 150	Disaster Modeling	2	1	2.5
THZ 160	Crisis Media Relations	1	0	1
Total Credits:		13	1	13.5

## Faculty

### For more information

Contact Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709

## Courses

### **THZ 101 First Responder-OSHA HAZMAT Operations Level 0.5 Credits. 0.5 Lecture Hour. 0 Lab Hour.**

This course is designed to meet the basic operations level to be a hazardous materials (HAZMAT) First Responder. Course topics focus on basic hazard recognition/risk assessment and defensive spill containment techniques. This course is designed to meet the OSHA, USEPA, USDOT, & NFPA training requirements for individuals who handle and/or exposed to hazardous substances. A hazardous substances includes hazardous materials and hazardous wastes.  
Prerequisites: None

### **THZ 103 HAZMAT (HAZWOPER) Annual Refresher 0.5 Credits. 0.5 Lecture Hour. 0 Lab Hour.**

A course that meets the annual refresher training requirements for individuals who perform environmental clean-up remediation work at sites regulated by federal and state environmental protection agencies. This course also meets the OSHA 29 CFR 1910.120 (HAZWOPER) standard and NFPA Standard 472 for Professional Qualifications for Hazardous Materials Responders.  
Prerequisites: None

### **THZ 104 OSHA 24-Hour HAZMAT (HAZWOPER) I Technician 1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on defensive and offensive measures that stop and contain hazardous substance spills and releases. Topics include: USDOT HAZMAT labeling, air monitoring, DECON operations, respiratory protections, and spill control. This course meets the OSHA, EPA, NFPA and DOT training requirements for individuals who handle and/or are exposed to hazardous material and hazardous waste.  
Prerequisites: None

### **THZ 105 OSHA 40-Hour HAZMAT (HAZWOPER) Workshop 3 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course for individuals who will perform hazardous materials response activities at the HAZMAT Technician level, and for personnel involved with investigation and remediation of hazardous waste sites and "Brown Fields" at the General Site Worker Level. This course meets regulatory requirements of OSHA 29 CFR 1910.120 and 29 CFR 1926.62 (Hazardous Waste Operations and Emergency Response), NFPA Standard 472, and USEPA 40 CFR 311.  
Prerequisites: None  
Instructor Consent Required

### **THZ 106 On-Scene Hazardous Materials and All Hazards Incident Command Workshop 1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on duties and responsibilities of an On-Scene Incident Commander for all types of hazardous materials and critical incidents. Topics include: National Incident Management System (NIMS), OSHA and FEMA risk assessment, emergency response planning, and HAZMAT strategy and tactics.  
Prerequisites: None

### **THZ 110 Basic Hazardous Materials Chemistry 1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A basic chemistry course specifically designed to assist emergency services and safety professionals who manage or respond to a hazardous material (HAZMAT) event. Topics include: atomic structures, chemical elements, periodic table, chemical bonding, chemical reactions and HAZMAT chemical terminology.  
Prerequisites: None

### **THZ 120 Disaster Preparedness and Business Continuity Planning 2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that provides the private and public sector management, emergency services, or safety professional an in-depth understanding of management issues involved in disaster planning and an organization's ability to restore normal business operations. Topics include: emergency response plans, risk assessment, crisis management teams, business continuity planning, and continuity of operations. The course materials are based on Department of Homeland Security (DHS) and NFPA 1600-Business Continuity Planning.  
Prerequisites: THZ 110

### **THZ 130 Radiological and Biological Emergency Preparedness Planning 2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for emergency services or safety professionals, US military personnel, or private sector risk managers on radiological and biological incidents and their consequences. Topics include: terminology, the National Response Framework (NRF) Plan, biological threats, damage assessment, and containment and recovery protocols.  
Prerequisites: None  
Instructor Consent Required

### **THZ 140 Introduction to WMD Terrorism 2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for emergency services and safety professionals and private sector safety and emergency management professionals on terrorism and employment of weapons of mass destruction (WMD). Topics include: counter-terrorism and anti-terrorism techniques employed by US federal agencies and the US Department of Defense; and use of chemical, biological, radiological, nuclear, and explosives in a terrorist incident.  
Prerequisites: None  
Instructor Consent Required

### **THZ 141 Consequences of Terrorism 2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course for emergency services or safety professionals on understanding how terrorists plan and execute an attack. Topics include: history of terrorism, terrorist tactics and operations, case studies of terrorist attacks, and cultural and political awareness.  
Prerequisites: TBE 101  
Instructor Consent Required

### **THZ 150 Disaster Modeling 2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course for emergency services or private sector safety professionals on the computer modeling systems used to conduct "plume" analysis. Topics include: CAMEO (Computer-Aided Management of Emergency Operations), GIS (Geographic Information Systems), WISER (Wireless Information System for Emergency Responders) HAZMAT (Hazardous Material) Response Planning, Emergency Operation Centers, and integration of modeling software into the Common Operating Picture.  
Prerequisites: None  
Instructor Consent Required

**THZ 160 Crisis Media Relations****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course for the public and/or private sector spokesperson or public affairs officer on media relations and operations during a crisis.

Topics include: types of media, public information officer duties and responsibilities, press kits, media plans, and press briefings.

Prerequisites: None

Instructor Consent Required

## Industrial Controls and Instrumentation Certificate (ICIC)

### Industrial Controls and Instrumentation Certificate (ICIC)

This hands-on training program is designed for the maintenance person who will install, calibrate, and troubleshoot industrial controls and instruments.

Students who successfully complete the certificate program are prepared to take the International Society of Automation Certified Controls Systems Technician exam.

For more information call the Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709.

### Industrial Controls and Instrumentation Certificate (ICIC)

Semester 1		Lec	Lat	Credits
TPI 110	Process Control and Instrumentation 1: Pressure Control	2	1	2.5
Semester 2				
TPI 120	Process Control and Instrumentation 2: Temperature Control	2	1	2.5
Semester 3				
TPI 130	Process Control and Instrumentation 3: Level and Flow	2	1	2.5
Semester 4				
TPI 140	Process Control and Instrumentation 4: Final Control	2	1	2.5
Total Credits:		8	4	10

### Faculty

#### For more information:

Contact Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709

## Courses

### TPI 110 Process Control and Instrumentation 1: Pressure Control 2.5 Credits. 2 Lecture Hours. 1 Lab Hour.

A course on foundation concepts related to process controls and instrumentation. Topics include: controllers, transmitters, variable frequency drives (VFDs) and control valves, and automatic control techniques. Laboratory exercises include loop wiring, calibration, controller configuration, and troubleshooting.

Prerequisites: None

### TPI 120 Process Control and Instrumentation 2: Temperature Control 2.5 Credits. 2 Lecture Hours. 1 Lab Hour.

A continuation of TPI 110. Topics include: control of temperature and pressure. Activities include laboratory exercises and computer simulations.

Prerequisites: TPI 110

### TPI 130 Process Control and Instrumentation 3: Level and Flow 2.5 Credits. 2 Lecture Hours. 1 Lab Hour.

A continuation of TPI 120. Topics include: control of level and flow, installation, calibration, configuration, and troubleshooting. Activities include laboratory exercises.

Prerequisites: TPI 120

### TPI 140 Process Control and Instrumentation 4: Final Control 2.5 Credits. 2 Lecture Hours. 1 Lab Hour.

A continuation of TPI 130. Topics include: industry use of final control units; and how to select, install, configure, and troubleshoot pneumatic control valves and variable frequency drives (VFDs). Activities include laboratory exercises.

Prerequisites: TPI 130

### TPI 150 Process Control and Instrumentation 5: Analytical Control 2.5 Credits. 2 Lecture Hours. 1 Lab Hour.

A continuation of TPI 140. Topics include: control of analytical and measurement processes such as ORP, pH, conductivity, and chromatography. Activities include laboratory exercises.

Prerequisites: TPI 140

## Industrial Electrical Maintenance Certificate (IEMC)

### Industrial Electrical Maintenance Certificate (IEMC)

This training program is designed to provide the knowledge and hands-on experience necessary for an entry-level electrical maintenance technical technician in industry.

For more information call the Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709.

### Industrial Electrical Maintenance Certificate (IEMC)

MMC 105	Shop Math	1
TEM 120	Industrial Electricity for AC and DC Circuits	2.5
TEM 140	Electrical Ladder Diagrams and Print Reading	1
TEM 150	Industrial Power Systems	1
TEM 160	Motors, Motor Controls, and Drives	2.5
TEM 170	Sensors for Industrial Control Systems	1

TEM 180	Programmable Logic Controllers 1	2.5
TEM 190	Troubleshooting Industrial Electrical Equipment	2.5
Total Credits		14

## Faculty

### For more information:

Contact Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709

## Courses

### TEM 105 Installation of Solar Thermal Systems

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course for individuals seeking to become installers of solar thermal systems. Topics include: fundamental concepts of solar thermal systems; and design, installation, troubleshooting, and commissioning of systems.

Prerequisites: None

### TEM 107 Install Photovoltaic Sys

**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts and techniques for installing solar photovoltaic (PV) systems. Topics include: designing PV systems and safely installing solar-electric systems. This course prepares students for the NABCEP PV Entry Level Certificate of Knowledge exam.

Prerequisites: None

### TEM 110 Electrical Systems

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

An course on electrical systems found in a manufacturing facility. Topics include: motors and motor control, meters and testing devices, power distribution, and electrical systems.

Prerequisites: None

### TEM 115 Electrical Safety

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on electrical safety issues based on NFPA 70E. Topics include: electrical hazards, comparison of qualified and non-qualified workers, lockout/tagout, safe electrical work practices, and PPE.

Prerequisites: None

### TEM 120 Industrial Electricity for AC and DC Circuits

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on fundamental concepts and safe maintenance techniques used when working with electrical devices and applications.

Prerequisites: None

### TEM 125 Industrial Electronic Devices

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on theory, operation, application, and troubleshooting of solid-state devices used in industrial equipment and controls. Topics include: semi-conductors; transistors as switches; and amplifiers, SCRs, LEDs, and integrated circuits.

Prerequisites: None

### TEM 130 Electrical Control System Devices

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on the devices typically found in an industrial control panel, including relays, timers, contactors, terminal blocks, and control transformers.

Prerequisites: None

### TEM 140 Electrical Ladder Diagrams and Print Reading

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on concepts and skills needed to interpret electrical prints and construct electrical ladder diagrams.

Prerequisites: None

### TEM 150 Industrial Power Systems

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on concepts and skills for working with modern power distribution systems. Topics include: transformers, circuit protection, 1-line diagrams, grounding, switch gears, and electrical safety.

Prerequisites: None

### TEM 160 Motors, Motor Controls, and Drives

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course for maintenance personnel involved in selection, installation, and troubleshooting of industrial 480 three-phase motors, controls and frequency drives. Topics include: control circuits, overload protection, and auxiliary control devices.

Prerequisites: None

### TEM 165 Motion Control Devices and Systems

**1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course for the industrial electrician or electrical maintenance technician responsible for installing or troubleshooting motion control devices. Topics include: types and applications of motion control devices used in industry.

Prerequisites: None

### TEM 170 Sensors for Industrial Control Systems

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course for maintenance personnel covering selection, installation, and troubleshooting of discrete and analog sensors commonly found in manufacturing operations. Topics include: limit switches, pressure switches, proximity switches, photo eye sensors, process sensors with analog outputs, and motion sensors.

Prerequisites: None

### TEM 175 Variable Frequency Drives

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on application, selection, installation, programming, and troubleshooting of Variable Frequency Drives (VFDs) used in industry. Topics include: test equipment and motor controls; hardware identification; and determining parameter values for load, torque, and speed.

Prerequisites: None

### TEM 180 Programmable Logic Controllers 1

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on operation, installation, basic programming, and troubleshooting of programmable logic controllers (PLCs) using Allen Bradley SLC-500 and CompactLogix PLCs.

Prerequisites: None

### TEM 185 Programmable Logic Controllers 2

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of TEM 180, emphasizing techniques used by electricians or instrument technicians who install and troubleshoot advanced PLCs. Topics include: advanced and special program instruction, Human-Machine Interface (HMIs), and communication networks.

Prerequisites: TEM 180

**TEM 190 Troubleshooting Industrial Electrical Equipment****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on systematic approaches for troubleshooting electrical equipment used in industry.

Prerequisites: None

## Machine Maintenance Certificate (MMC)

### Machine Maintenance Certificate (MMC)

This training program is designed to provide the knowledge and hands-on experience necessary for an entry-level mechanical maintenance technician in industry.

For more information call the Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709.

### Machine Maintenance Certificate (MMCC)

MMC 105	Shop Math	1
MMC 110	MSSC Certified Production Technician Training	6
MMC 120	Pneumatic Systems 1	2.5
MMC 130	Hydraulic Systems 1	2.5
MMC 140	Mechanical Drive Systems	2.5
MMC 150	Bearings, Seals, and Lubrication	1.5
Total Credits		16

## Faculty

### For more information:

Contact Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709

## Courses

### MMC 100 Introduction to Mechanical Systems

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on mechanical systems found in a manufacturing facility. Topics include: mechanical power transmissions, bearings and shafts, lubrication, pumps and compressors, fluid power, and piping systems. Prerequisites: None

### MMC 105 Shop Math

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course that reviews basic mathematical skills used in the maintenance trades. Topics include: decimals, fractions, percents, ratios, proportions, roots, and powers; basic algebra; and basic trigonometry.

Prerequisites: None

### MMC 110 MSSC Certified Production Technician Training

**6 Credits. 6 Lecture Hours. 0 Lab Hour.**

A course that addresses core competencies for production workers as defined by the Manufacturing Skills Standards Council. Students who complete the course successfully earn the MSSC Certified Production Technician credential.

Prerequisites: Admitted to MSSC Training Program  
Instructor Consent Required

### MMC 111 MSSC Certified Logistics Associate Trainee

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that addresses core competencies for production workers whose job activities involve basic areas of logistics, as defined by the Manufacturing Skills Standards Council. Students who complete the course successfully earn the MSSC Certified Logistics Associate credential.

Prerequisites: Admitted to MSSC Training Program  
Instructor Consent Required

### MMC 112 MSSC Certified Logistics Technician Trainee

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course that addresses core competencies for production workers whose job activities involve advanced areas of logistics, as defined by the Manufacturing Skills Standards Council. Students who complete the course successfully earn the MSSC Certified Logistics Technician credential.

Prerequisites: MMC 111  
Instructor Consent Required

### MMC 115 Print Reading and Measurement Tools

**1.5 Credit. 1 Lecture Hour. 0.5 Lab Hour.**

A course on reading and understanding mechanical prints and using precision mechanical measuring tools.

Prerequisites: None

### MMC 117 Tools, Machines, and Fabrication

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on the application and operation of hand tools, power tools, machine tools and other tools used in fabrication.

Prerequisites: None

### MMC 118 Industrial Piping Systems

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on types and applications of industrial pipe systems. Topics include: sizing, identifying, and installing piping, fittings, and valves; and using systems including iron pipe, steel tubing, hydraulic hose, plastic pipe, and copper tubing.

Prerequisites: None

### MMC 120 Pneumatic Systems 1

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on fundamental principles and techniques of pneumatics. Topics include: maintenance, field repairs, and troubleshooting of pneumatic systems.

Prerequisites: None

### MMC 125 Pneumatic Systems 2

**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of MMC 120 that provides additional understanding and practice in maintenance, field repairs, and troubleshooting of pneumatic systems.

Prerequisites: MMC 120

### MMC 127 Rigging and Lifting

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on fundamental skills and applications for rigging, stressing inspection and safety. Topics include: industrial knots, rigging calculations, hand signals, gear selection, overhead crane operation, and lift operation.

Prerequisites: None

**MMC 130 Hydraulic Systems 1****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on fundamental principles and techniques of industrial hydraulics. Topics include: fluid conductors, seals, basic hydraulic symbols, construction, and operation and use of hydraulic pumps.

Prerequisites: None

**MMC 135 Hydraulic Systems 2****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of MMC 130. Topics include: construction, operation, pressure controls, directional controls, flow controls, actuators, cartridge valves, stack valves, accumulators, heat exchangers, flow meters, and gauges.

Prerequisites: MMC 130

**MMC 140 Mechanical Drive Systems****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on fundamentals of mechanical transmission systems used in industrial applications. Topics include: operation, installation, performance analysis, and design of basic mechanical transmission systems; and using chains, v-belts, spur gears, bearings, and couplings.

Prerequisites: None

**MMC 145 Preventive Maintenance for Mechanical Systems****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on concepts and methods for preventive maintenance, emphasizing vibration measurement and monitoring. Topics include: vibration analysis; tests, measurements, and adjustments; and parts replacement performed to prevent faults from occurring.

Prerequisites: None

**MMC 147 Machine Leveling and Alignment****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on industrial equipment leveling and alignment procedures. Topics include: alignment instruments and tools, shaft runout, softfoot, piping strain, foundations, and anchor systems.

Prerequisites: None

**MMC 150 Bearings, Seals, and Lubrication****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course on how to operate, install, analyze, troubleshoot, and select bearings, seals, and lubrication for mechanical systems.

Prerequisites: None

**MMC 160 Industrial Pump Maintenance****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course on fundamentals of selecting, installing, and troubleshooting industrial centrifugal pumps. Topics include: pump operation, pressure/flow characteristics, performance and efficiency, cavitation, seals, sizing, and maintenance.

Prerequisites: None

**MMC 170 Jet Engine Teardown****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

Jet Engine Teardown School (JETS) covers commercial jet design, components, and operating principles. Students tear down a commercial jet engine and fire up a working commercial jet engine.

Prerequisites: None

**MMC 180 Machining Processes****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course on interpreting engineering part drawings, determining the sequence of machining operations, selecting tooling, and preparing plans for machining and inspection to confirm that parts meet the requirements of the drawings.

Prerequisites: None

## Manufacturing Machine Operation Certificates, Levels 1 and 2 (MMOC1, MMOC2)

### Manufacturing Machine Operation Level 1 Certificate (MMOC1)

The Manufacturing Machine Operation Level 1 Certificate provides foundation skills needed for entry level employment as a computer numerical control (CNC) machine operator in a manufacturing facility. The certificate also prepares students to take certification exams offered by the National Institute for Metalworking Skills (NIMS).

Students develop skills including manufacturing machine safety, measurement and blueprint reading, materials and product inspection, and statistical process control. Additionally, students perform machining operations such as drilling, tapping, boring, turning, and conventional milling and lathe work using various manual and CNC machine tools.

### Manufacturing Machine Operation Level 2 Certificate (MMOC2)

The Manufacturing Machine Operation Level 2 Certificate provides advanced skills training in programming of computerized numerical control (CNC) equipment, using simulators and live operation of a CNC Machining Center and CNC Lathe. This certificate is designed for machine operators, machinists, programmers, engineers, and supervisors.

Students who complete the Level 2 certificate gain understanding of how to use CNC programs to develop parts in compliance with industry plans, specifications, and standards. Additionally, students inspect and evaluate parts and materials to meet design specifications. The certificate also prepares students to take certification exams offered by the National Institute for Metalworking Skills (NIMS).

For more information call the Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709.

### Manufacturing Machine Operation Level 1 Certificate (MMOC1)

Semester 1		Lec	Lat	Credits
MMC 105	Shop Math	1	0	1
MMO 111	Mechanical Plan Reading 1	2	0	2
MMO 120	Mechanical Machining	0	6	3
MMO 125	Introduction to CNC	1	2	2



XXX XXX Technical Elective	2	0	2
Total Credits:	6	8	10

**Technical Elective (minimum 2 credits required)**

MMO 110 & MMO 130	OSHA General Industry Safety and Statistical Process Control Fundamentals *	2	
MMC 110	MSSC Certified Production Technician Training	6	

\* Must complete both courses to earn credit for Technical Elective.

## Manufacturing Machine Operation Level 2 Certificate (MMOC2)

Semester 1		Lec	Lat	Credits
MMO 112	Mechanical Plan Reading 2	2	0	2
MMO 135	CNC Programming Fundamentals	2	2	3
MMO 136	Computer-Aided Drafting (CAD) for Manufacturing	0	2	1
MMO 137	Computer-Aided Manufacturing (CAM)	0	2	1
MMO 140	CNC Tooling and Maintenance	2	0	2
Total Credits:		6	6	9

## Faculty

### For more information:

Contact Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709

## Courses

### MMO 110 OSHA General Industry Safety

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course for machine operators and first-line supervisors on key OSHA General Industry Safety Standards.

Prerequisites: None

### MMO 111 Mechanical Plan Reading 1

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of using and interpreting mechanical drawings and blueprints for geometric dimensioning, tolerances, and precision measurement required for manufacturing mechanical parts and assemblies.

Prerequisites: None

### MMO 112 Mechanical Plan Reading 2

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A continuation of MMO 111. Topics include: interpretation of software-depicted mechanical drawings, symbols, and renderings for CNC manufacturing of detailed mechanical parts and assemblies.

Prerequisites: MMO 111

### MMO 120 Mechanical Machining

**3 Credits. 0 Lecture Hour. 6 Lab Hours.**

A course on manual machining operations such as drilling, tapping, boring, turning, and conventional milling and lathe work.

Prerequisites: None

### MMO 125 Introduction to CNC

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on setup, piece placement, data input, and operation of a computer numeric controlled (CNC) machine.

Prerequisites: None

### MMO 130 Statistical Process Control Fundamentals

**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on statistical process control (SPC) and lean quality processes. Topics include: continuous improvement methods for reducing errors, eliminating defective parts/products, and lowering costs through reduced waste.

Prerequisites: None

### MMO 135 CNC Programming Fundamentals

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on using a computer to write CNC machine G and M code. Topics include: using multiple tools; cutter offsets; linear, circular and helical interpolation; and matching surfaces along lines and points of tangency to produce a part.

Prerequisites: MMO 125

### MMO 136 Computer-Aided Drafting (CAD) for Manufacturing

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental techniques for using SolidWorks computer-aided drafting (CAD) software. Topics include: standards and conventions of engineering drawings, and generating 3-D solid objects using SolidWorks.

Prerequisites: None

### MMO 137 Computer-Aided Manufacturing (CAM)

**1 Credit. 0 Lecture Hour. 2 Lab Hours.**

A course on fundamental techniques for using Mastercam software to develop a mechanical drawing of a machine component. Topics include: creating geometry and toolpaths; and importing, positioning, and creating toolpaths for solid models using Mastercam.

Prerequisites: None

### MMO 140 CNC Tooling and Maintenance

**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on inspecting and diagnosing CNC machine and tooling parts, making routine adjustments, and taking steps to correct operations and put tooling back in service.

Prerequisites: MMO 125

### MMO 150 CNC Modeling and Programming

**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on writing a computer program to produce a multi-plane part shown on a blueprint or plan by using a CNC mill and lathe.

Prerequisites: MMO 135

### MMO 210 Additive Manufacturing and Machine Operation Fundamentals

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

An introduction to additive manufacturing and design of 3D printing parts using parametric CAD software. Topics include: history of additive manufacturing, the production cycle, machine subsystems, measurement practices, and operations safety. Lab activities use additive equipment, software, and materials including polymer filaments in fused deposition modeling.

Prerequisites: MMO 110

**MMO 215 Industrial Applications of Additive Manufacturing**  
**4 Credits. 2 Lecture Hours. 4 Lab Hours.**

A course on 3D printing processes, materials, and design used in additive manufacturing. Topics include: creating advanced computer-generated drawings using CAD software for materials with lattice structures, and defining manufacturing process parameters. Students take field trips to additive facilities to learn to use industrial equipment for metal 3D printing.

Prerequisites: MMO 210

**MMO 220 Applied Project in Additive Manufacturing**  
**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

Students work in teams and use knowledge and skills gained in previous Additive Manufacturing (AM) courses to complete a project that produces a finished AM product and documents the production process. Topics include: project management fundamentals, statistical analysis for AM processes, technical writing, and AM design techniques.

Prerequisites: MMO 215

# Programmable Logic Controllers Certificate (PLCC)

## Programmable Logic Controllers Certificate (PLCC)

This hands-on training program is designed for the maintenance person who will install, program, maintain, and troubleshoot Programmable Logic Controllers (PLCs).

For more information call the Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709.

## Programmable Logic Controllers Certificate (PLCC)

Semester 1		Lec	Lat	Credits
TEM 140	Electrical Ladder Diagrams and Print Reading	1	0	1
TEM 180	Programmable Logic Controllers 1	2	1	2.5
Semester 2		Lec	Lat	Credits
TEM 185	Programmable Logic Controllers 2	2	1	2.5
Total Credits:		5	2	6

### Faculty

**For more information:**

Contact Workforce Development Center at (513) 569-1643 or toll-free (888) 569-1709

### Courses

**TEM 105 Installation of Solar Thermal Systems**  
**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course for individuals seeking to become installers of solar thermal systems. Topics include: fundamental concepts of solar thermal systems; and design, installation, troubleshooting, and commissioning of systems.

Prerequisites: None

**TEM 107 Install Photovoltaic Sys**  
**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts and techniques for installing solar photovoltaic (PV) systems. Topics include: designing PV systems and safely installing solar-electric systems. This course prepares students for the NABCEP PV Entry Level Certificate of Knowledge exam.

Prerequisites: None

**TEM 110 Electrical Systems**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

An course on electrical systems found in a manufacturing facility. Topics include: motors and motor control, meters and testing devices, power distribution, and electrical systems.

Prerequisites: None

**TEM 115 Electrical Safety**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on electrical safety issues based on NFPA 70E. Topics include: electrical hazards, comparison of qualified and non-qualified workers, lockout/tagout, safe electrical work practices, and PPE.

Prerequisites: None

**TEM 120 Industrial Electricity for AC and DC Circuits**  
**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on fundamental concepts and safe maintenance techniques used when working with electrical devices and applications.

Prerequisites: None

**TEM 125 Industrial Electronic Devices**  
**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on theory, operation, application, and troubleshooting of solid-state devices used in industrial equipment and controls. Topics include: semi-conductors; transistors as switches; and amplifiers, SCRs, LEDs, and integrated circuits.

Prerequisites: None

**TEM 130 Electrical Control System Devices**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on the devices typically found in an industrial control panel, including relays, timers, contactors, terminal blocks, and control transformers.

Prerequisites: None

**TEM 140 Electrical Ladder Diagrams and Print Reading**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on concepts and skills needed to interpret electrical prints and construct electrical ladder diagrams.

Prerequisites: None

**TEM 150 Industrial Power Systems**  
**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on concepts and skills for working with modern power distribution systems. Topics include: transformers, circuit protection, 1-line diagrams, grounding, switch gears, and electrical safety.

Prerequisites: None

**TEM 160 Motors, Motor Controls, and Drives**  
**2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course for maintenance personnel involved in selection, installation, and troubleshooting of industrial 480 three-phase motors, controls and frequency drives. Topics include: control circuits, overload protection, and auxiliary control devices.

Prerequisites: None

**TEM 165 Motion Control Devices and Systems****1.5 Credit. 1 Lecture Hour. 1 Lab Hour.**

A course for the industrial electrician or electrical maintenance technician responsible for installing or troubleshooting motion control devices. Topics include: types and applications of motion control devices used in industry.

Prerequisites: None

**TEM 170 Sensors for Industrial Control Systems****1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course for maintenance personnel covering selection, installation, and troubleshooting of discrete and analog sensors commonly found in manufacturing operations. Topics include: limit switches, pressure switches, proximity switches, photo eye sensors, process sensors with analog outputs, and motion sensors.

Prerequisites: None

**TEM 175 Variable Frequency Drives****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on application, selection, installation, programming, and troubleshooting of Variable Frequency Drives (VFDs) used in industry. Topics include: test equipment and motor controls; hardware identification; and determining parameter values for load, torque, and speed.

Prerequisites: None

**TEM 180 Programmable Logic Controllers 1****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on operation, installation, basic programming, and troubleshooting of programmable logic controllers (PLCs) using Allen Bradley SLC-500 and CompactLogix PLCs.

Prerequisites: None

**TEM 185 Programmable Logic Controllers 2****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A continuation of TEM 180, emphasizing techniques used by electricians or instrument technicians who install and troubleshoot advanced PLCs. Topics include: advanced and special program instruction, Human-Machine Interface (HMIs), and communication networks.

Prerequisites: TEM 180

**TEM 190 Troubleshooting Industrial Electrical Equipment****2.5 Credits. 2 Lecture Hours. 1 Lab Hour.**

A course on systematic approaches for troubleshooting electrical equipment used in industry.

Prerequisites: None

# Degree & Certificate Programs

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in collaboration with Engineering and Information Technologies

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